

THE ORIENTAL INSTITUTE
of
THE UNIVERSITY OF CHICAGO

STUDIES IN ANCIENT ORIENTAL CIVILIZATION

Edited by
JAMES HENRY BREASTED
with the assistance of
THOMAS GEORGE ALLEN

NUMBER 2 IN ORDER OF APPEARANCE
IN THE SERIES

HITTITE HIEROGLYPHS
I

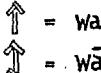
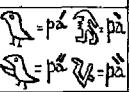
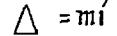
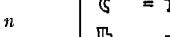
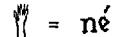
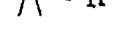
THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS

—
THE BAKER & TAYLOR COMPANY
NEW YORK

THE CAMBRIDGE UNIVERSITY PRESS
LONDON

THE MARUZEN-KABUSHIKI-KAISHA
TOKYO, OSAKA, KYOTO, FUKUOKA, SENDAI

THE COMMERCIAL PRESS, LIMITED
SHANGHAI

	-a	-e	-i	-u	Vowel uncertain
Vowels					
					
w					
p/b					
t/d					
k/g					
b					
m					
n					
r/y					
l					
s/š					
Syllables of unknown value:      					

THE ORIENTAL INSTITUTE *of* THE UNIVERSITY OF CHICAGO
STUDIES IN ANCIENT ORIENTAL CIVILIZATION

HITTITE HIEROGLYPHS

I

By
IGNACE J. GELB



THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS

**COPYRIGHT 1931 BY THE UNIVERSITY OF CHICAGO
ALL RIGHTS RESERVED. PUBLISHED DECEMBER 1931**

**COMPOSED AND PRINTED BY THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS, U.S.A.**

TO
MY MOTHER AND FATHER

FOREWORD

It is a source of gratification to us of the Oriental Institute that two of its members have been drawn by their own individual interests to a study of the problem of restoring to modern historians the lost documentary sources which now lie hidden in the Hittite hieroglyphic records. The problem is excessively difficult because there has been no bilingual of sufficient extent to give us a basis of fundamental facts from which to proceed in the development of the decipherment, whereas the modern ability to read Hittite cuneiform was acquired with relative ease through modern knowledge of other languages written in the same script.

The field researches of the Oriental Institute in Anatolia were undertaken in the first instance for the purpose of investigating especially the material remains of ancient Hittite life. It has furthermore always been our hope that our Anatolian Expedition might have the good fortune to unearth additional *written* records of Hittite civilization, as indeed it is now doing at Alishar Hüyük. It is therefore in fullest harmony with the purposes of the Oriental Institute that it should extend its interest likewise to the decipherment of what is now so commonly called "Hittite hieroglyphic," whether or not the term "Hittite" is even loosely correct in this connection.

Dr. Gelb's investigations have been carried on along both phonetic and grammatical lines, with the greater emphasis, however, on phonetic phenomena. On the other hand, the essay by Dr. Forrer which the Institute is about to publish has given the more important place to the interpretation rather than to the phonetic problems involved. The essays by both these scholars were read at the International Congress of Orientalists at Leiden in September, 1931, and it was already evident at that time that their results were not in complete consonance. This is probably rather more fortunate than otherwise. Each of the essays, by serving as a test of the other, will probably make it easier to eliminate errors.

JAMES HENRY BREASTED

PREFACE

My work on the Hittite hieroglyphic inscriptions is planned to consist of three or four parts. In this first part I present a contribution to the decipherment of the writing, together with suggestions on the decipherment of the language. Later parts will contain a complete index of all words found in the Hittite hieroglyphic texts and a complete list of signs and their variants. Then may come annotated translations of the individual inscriptions and various specialized studies.

For research opportunities past and to come I am grateful especially to Professor James H. Breasted, the director of the Oriental Institute, and to Professor Edward Chiera, both of whom, by supervising my work in the Institute and advising me on difficult questions, greatly facilitated the studies which have resulted in the present treatise. To them go my sincere thanks.

My original manuscript was submitted in part or in its entirety to many members of the Institute, all of whom offered helpful suggestions. For these I would thank heartily Professors E. Chiera, A. T. Olmstead, A. Poebel, M. Sprengling, and Drs. F. W. Geers and A. Walther. To Professor Poebel especially I owe advice on the arrangement of chapter i.

The manuscript in its modified form was then turned over to the Institute's editorial office, where Dr. T. George Allen and his secretary, Miss Elizabeth Blaisdell, heartily applied themselves to the arduous task of correcting its stylistic errors and checking its scientific content. It would be impossible for me to enumerate all the suggestions which I accepted from Dr. Allen after long and careful discussion of the various questions he raised. In every section, in every paragraph, though unsigned by him, can be felt the hand of a great and modest scholar, appreciation of whose work I can scarcely express in words.

The hieroglyphs sketched in pencil in my manuscript were executed in ink by Mr. A. Schmitz, who has spared no pains to make their forms as like the originals as possible.

The decipherment of the Hittite inscriptions seems to me much

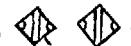
more important than it might seem to many. Hence I would beg reviewers to judge my work objectively and not to conclude prematurely that "it will belong to the future to decide whether the author was right or wrong in his theories." I hope rather that reviews will be thorough, that they will bring out all the strong and weak points throughout my work, so that future parts can be improved and thus a better understanding be gained of the historical situation in which lived and passed away the peoples of Cypro-Minoan-Hittite origin.

IGNACE J. GELB

AUTHOR'S NOTE

To facilitate comparison of Hittite hieroglyphic passages with one another and with their transliterations, the direction of the original lines has been reversed when necessary, so that all citations herein read from left to right throughout. For convenience in tracing possible dialectal differences, the provenience of each quotation is indicated. Assur, Carchemish, and Hamath are spelled in their accepted style; other ancient place-names are scientifically transliterated.

Transliterations such as *né* and *pd* are not intended to indicate homophones of *ne* and *pa*, such as would be expected in the case of cuneiform. In fact, with only fifty-six syllabic signs, there is scarcely place for more than one sign for each syllable. Under these circumstances an accent over a vowel of any syllable means that the syllable in question contains not that particular vowel but one closely related, as shown by analogous uses of that syllable and of the known syllable transliterated by the same letters but without the accent. Voiced and voiceless consonants are not distinguished in my transliteration.¹ My proofs emphasize only what seems to me the most likely value of each sign.

The transliterations of individual characters are combined into words by hyphens, e.g., *nka-ti-si*. Though vowels were not always pronounced (e.g., after the nominative ending *-s*), since we are unable to determine definitely when they were silent we are including the full value of every syllable in our transliterations, just as silent letters are written along with the others in English. Elements of compound signs occurring in the hieroglyphic are in transliteration connected by the plus sign; e.g.,  *gu+ri+gu-ma-ni*. Parentheses enclose syllables, single or in groups, which serve as phonetic complements of ideograms, e.g., *karka(ka)-me-sá*, *umena(me-na)-sá*. Absence of parentheses around syllables following ideograms implies uncertainty as to how many syllables represent phonetic complements and

¹ Cf. my discussion of the phonology, pp. 74-75.

how many are to be read independently. Brackets indicate lost signs; half-brackets and question marks, uncertain readings; < >, emendations.

Ideograms the pronunciation of which is unknown are transliterated with *X*. A small *x* stands for an unread syllabic sign or for an unknown element, either vowel or consonant, in such a sign. Thus *rx* represents a syllable consisting of *r* followed by an unidentified vowel.

In straight transliteration determinatives are indicated by small superior roman letters as follows:

^c	city	ⁿ	personal name
^d	deity	^{pl}	plural
^l	land, country	^r	river
^m mase. name (cuneiform)			

For clearness under other circumstances the words themselves have occasionally been quoted in full within parentheses.

TABLE OF CONTENTS

	PAGE
BIBLIOGRAPHY	xvii
INTRODUCTION	1
I. THE WRITING	6
General Observations	6
The Signs	6
The Division Mark	8
The Ideogram Marks	8
The Tangs	12
The Writing of Syllables	15
The Syllabary	16
Readings Based on Geographic Names	16
Readings Based on Bilingual Inscriptions	34
Readings Based on Other Considerations	38
Unread Signs	50
II. THE LANGUAGE	54
Grammatical Forms	54
Nouns	54
Pronouns	56
Verbs	59
Particles	60
Vocabulary	64
Texts	66
Phonology	74
III. HISTORICAL RESULTS	77
INDEXES	84
The Syllabary	84
Ideograms Explained	86
Proper Names Discussed	87
Other Words Discussed	87
Texts Translated	88

BIBLIOGRAPHY

I. TEXTS

[Arranged chronologically]

MESSERSCHMIDT, L. Corpus inscriptionum Hettitarum. MVAG, 5. Jahrg., Nos. 4-5 (1900).
Op. cit., Erster Nachtrag. MVAG, 7. Jahrg., No. 3 (1902).
Op. cit., Zweiter Nachtrag. MVAG, 11. Jahrg., No. 5 (1906).

WINCKLER, HUGO. Die Tontafelfunde, in *Mitteilungen der Deutschen Orient-Gesellschaft*, No. 35 (1907), pp. 57-58, Abb. 6 and 7.

GARSTANG, JOHN. Notes on a journey through Asia Minor, in AAA, I (1908), 1-12.

JERPHANION, G. DE. Two new Hittite monuments in the Cappadocian Taurus, in PSBA, XXX (1908), 42-44.

MESSERSCHMIDT, L., in ROTT, Hans. Kleinasiatische Denkmäler . . . (Leipzig, 1908), pp. 175-79. (Not available.)

RONZEVILLE, S. Stèle hittite des environs de Restan, in *Université Saint-Joseph, Beyrouth (Liban). Mélanges de la Faculté orientale*, III (1908), 794-96.

HOGARTH, D. G. Carchemish and its neighbourhood, in AAA, II (1909), 165-84.

SAYCE, A. H. The Hittite inscriptions discovered by Sir W. Ramsay and Miss Bell on the Kara Dagh, in PSBA, XXXI (1909), 83-87.

SAYCE, A. H. A new inscription from the neighbourhood of Hamath, in PSBA, XXXI (1909), 259-61.

JERPHANION, G. DE. Hittite monuments of Cappadocia, in PSBA, XXXII (1910), 168-74.

Cornell Expedition to Asia Minor and the Assyro-Babylonian Orient . . . Travels and studies in the Nearer East . . . (Ithaca, N.Y., 1911).

British Museum. Carchemish; report on the excavations at Djerabis . . . conducted by C. LEONARD WOOLLEY and T. E. LAWRENCE (2 vols.; London, 1914-21).

GARSTANG, JOHN. The winged deity and other sculptures of Malatia, in AAA, VI (1914), 116-18.

ANDRAE, WALTER. Hettitische Inschriften auf Bleistreifen aus Assur. WVDOG, No. 46 (1924).

LEWY, J. Eine neue Stele mit "hethitischer" Bilderschrift, in AOF, III (1926), 7-8.

CAMERON, A. A Hittite inscription from Angora, in JRAS, 1927, pp. 320-21.

OSTEN, H. H. von DER. Explorations in Hittite Asia Minor. OIC, No. 2 (1927). Figs. 6 and 14 (see drawing of latter by Cameron).

OSTEN, H. H. VON DER. New sculptures from Malatia, *in AJSL*, XLV (1928/29), 83-89.

MAUCLÈRE, JEAN. Une trouvaille à Césarée d'Anatolie, *in L'Illustration*, No. 4489 (1929), 280. Reprinted *in AOF*, VI (1930), 128.

OSTEN, H. H. VON DER. Explorations in Hittite Asia Minor, 1927-28. OIC, No. 6 (1929). Fig. 160.

OSTEN, H. H. VON DER. Four sculptures from Marash, *in Metropolitan Museum Studies*, II (1929), 112-32.

THUREAU-DANGIN, FR. Tell Ahmar, *in Syria*, X (1929), 185-205. See also *Bulletin des Musées de France*, 1929, pp. 139-41, where the same text photograph is given.

OSTEN, H. H. VON DER, and SCHMIDT, ERICH F. The Alishar Hüyük, season of 1927. Part I. OIP, VI (1930). Figs. 14 and 15. Previously illustrated in OIC, No. 6 (1929), Figs. 15 and 16.

HERZFIELD, ERNST. Hettitica, *in Archaeologische Mitteilungen aus Iran*, II (1930), 132-203.

SAYCE, A. H. The Hittite monument of Karabel, *in JRAS*, 1931, pp. 429-31.

Many Hittite seals have become known since the appearance of Messerschmidt's corpus. The most important references are:

WARD, W. H. Cylinders and other ancient oriental seals in the library of J. Pierpont Morgan (New York, 1909), Nos. 195-268.

WARD, W. H. The seal cylinders of Western Asia (Washington, 1910), pp. 267-69.

ZALITZKY, J. Deux cachets hétéiens inédits de la Bibliothèque Nationale, *in RA*, XIV (1917), 25-28.

HOGARTH, D. G. Hittite seals, with particular reference to the Ashmolean collection (Oxford, 1920).

Paris. Musée du Louvre. Catalogue des cylindres, cachets et pierres gravées de style oriental par Louis Delaporte (2 vols.; Paris, 1920-23).

WEIDNER, E. F. Das Siegel des Hethiter-Königs Šuppiluliuma, *in AOF*, IV (1927), 135-37.

Ausgrabungen und Forschungsreisen, Bēsān, *in AOF*, IV (1927), 171.

Seals found by von der Osten and Schmidt in the Oriental Institute's excavations of 1927-30 at Alishar in Anatolia. Their field numbers are: 3099, 3100, a 385, b 571, b 2225, c 700, c 857, c 1456, c 2168, c 2251.

II. STUDIES

[Arranged by authors in order of their seniority in this field]

SAYCE, A. H. The Hamathite inscriptions, *in Society of Biblical Archaeology. Transactions*, V (1877), 22-32. Many scattered articles which followed were ultimately collected and republished in revised form under the title: The decipherment of the Hittite inscriptions, *in PSBA*, XXV (1903), 141-56, 173-94, 277-87, 305-10, 347-56; XXVI (1904), 17-24, 235-50.

BIBLIOGRAPHY

xix

SAYCE, A. H. The decipherment of the Hittite hieroglyphic texts, *in JRAS*, 1922, pp. 537-72.

SAYCE, A. H. The decipherment of the Hittite hieroglyphic inscriptions verified, *in JRAS*, 1925, pp. 707-15.

SAYCE, A. H. The decipherment of the Moscho-Hittite inscriptions, *in JRAS*, 1930, pp. 739-59.

SAYCE, A. H. Hittite and Moscho-Hittite, *in Revue hittite et asianique*, I (1930), 1-8.

BALL, C. J. New readings of the hieroglyphs from northern Syria, *in PSBA*, X (1888), 437-49.

MENANT, J. Etudes hétéennes, *in RT*, XIII (1890), 26-47 and 131-45.

MENANT, J. Eléments du syllabaire hétéen, *in Académie des inscriptions et belles-lettres*, Paris. Mémoires, XXXIV, 2. partie (1892), 1-113.

CAMPBELL, J. The Hittites: their inscriptions and their history (2 vols.; London, 1891).

CAMPBELL, J. A translation of the principal Hittite inscriptions yet published (no date).

PEISER, F. E. Die hetitischen Inschriften. Ein Versuch ihrer Entzifferung nebst einer das weitere Studium vorbereitenden methodisch geordneten Ausgabe (Berlin, 1892).

HALÉVY, J. Introduction au déchiffrement des inscriptions pseudo-hittites ou anatoliennes, *in RS*, I (1893), 55-62 and 126-37.

JENSEN, P. Grundlagen für eine Entzifferung der (hatischen oder) ciliischen(?) Inschriften, *in ZDMG*, XLVIII (1894), 235-352 and 429-85.

JENSEN, P. Hittiter und Armenier (Strassburg, 1898).

JENSEN, P. Zur Entzifferung der "hittitischen" Hieroglypheninschriften, *in ZA*, XXXV (N.F., I, 1924), 245-96.

JENSEN, P. Weitere Beiträge zur graphischen Entzifferung der sogenannten hittitischen Hieroglyphen-Inschriften, *in KAF*, I (1930), 462-97.

JENSEN, P. Piero Meriggi's Vorstudie zur Entzifferung der hethitischen Hieroglyphenschrift, *in ZA*, XL (1931), 29-64.

CONDER, C. R. The Hittites and their language (Edinburgh and New York, 1898).

MESSERSCHMIDT, L. Bemerkungen zu den hethitischen Inschriften. MVAG, 3. Jahrg., No. 5 (1898).

HOMMEL, FRITZ. Notes on the "Hittite" inscriptions, *in PSBA*, XXI (1899), 224-38.

GLEYE, A. Hettitische Studien (Leipzig, 1910).

RUSCH, R. Hethitische Schriftzeichen (Aachen, 1911).

RUSCH, R. Hethitische Zahlzeichen, *in RT*, XXXVI (1914), 113-28.

THOMPSON, R. CAMPBELL. A new decipherment of the Hittite hieroglyphs. *Archaeologia*, Vol. LXIV (Oxford, 1913).

COWLEY, A. E. Notes on Hittite hieroglyphic inscriptions, *in JRAS*, 1917, pp. 561-85.

COWLEY, A. E. *The Hittites* (London, 1920).

COWLEY, A. E. The date of the Hittite hieroglyphic inscriptions of Carchemish, *in British Academy. Proceedings, Vol. XIII* (1928). 12 pp.

ARTHAUD, GABRIEL. *Etude sur les sceaux hittéens* (Paris, 1920).

FRANK, CARL. Die sogenannten hettitischen Hieroglypheninschriften. *ADMG*, Bd. XVI, No. 3 (1923).

FRANK, CARL. Studien zu den "hettitischen" Hieroglypheninschriften (Berlin, 1924—).

FRANK, CARL. Hettitische Hieroglypheninschriften, *in Ebert, Max. Reallexikon der Vorgeschichte . . .* (Berlin, 1924—).

MERIGGI, PIERO. Die hethitische Hieroglyphenschrift, *in ZA, XXXIX (N.F., V, 1930)*, 165-212.

III. GENERAL WORKS

[Arranged alphabetically by author]

BOUDOU, R. P. Liste de noms géographiques, *in Orientalia, Nos. 36-38* (1929).

CONTENAU, GEORGES. *Eléments de bibliographie hittite* (Paris, 1922). *Op. cit.*, Supplément, *in Babylonica, X* (1927-28), 1-68 and 138-44.

DUSSAUD, RENÉ. *Topographie historique de la Syrie antique et médiévale* (Paris, 1927).

FORRER, EMIL. *Die Provinzteilung des assyrischen Reiches* (Leipzig, 1920).

GARSTANG, JOHN. *The Hittite Empire, being a survey of the history, geography and monuments of Hittite Asia Minor and Syria* (London, 1929). Cf. notes on this by H. H. von der Osten *in OIC, No. 8* (Chicago, 1930), pp. 158-77.

KNUDTZON, J. A., *ed.* *Die El-Amarna-Tafeln . . . Anmerkungen und Register* bearb. von Otto Weber und Erich Ebeling (2 vols.; Leipzig, 1915).

LUCKENBILL, DANIEL DAVID. *Ancient records of Assyria . . .* (2 vols.; Chicago, 1926-27).

MAYER, L. A., and GARSTANG, JOHN. *Index of Hittite names*. British School of Archaeology in Jerusalem. Supplementary papers, Vol. I (1923).

MEYER, EDUARD. *Reich und Kultur der Chetiter* (Berlin, 1914).

SAYCE, A. H. *The Hittites; the story of a forgotten empire* (4th ed.; London, 1925).

SUNDWALL, JOH. Die einheimischen Namen der Lykier nebst einem Verzeichnisse kleinasiatischer Namenstämme. *Klio, Beiträge zur alten Geschichte*, 11. Beiheft (Leipzig, 1913).

TALLQVIST, KNUT L. *Assyrian personal names*. *Acta Societatis scientiarum Fennicae*, Tom. XLIII, No. 1 (Helsingfors, 1914).

WRIGHT, WILLIAM. *The empire of the Hittites, with decipherment of Hittite inscriptions* by Prof. A. H. Sayce (London, 1884).

IV. ABBREVIATIONS

The books of List III are cited by name of author only. Other abbreviations are:

BIBLIOGRAPHY

A British Museum. Carchemish; report on the excavations at Djera-bis conducted by C. LEONARD WOOLLEY and T. E. LAWRENCE (2 vols.; London, 1914-21). Plates of series A.

AAA Annals of archaeology and anthropology (Liverpool, 1908—).

ADMG Deutsche morgenländische Gesellschaft. Abhandlungen . . . (Leipzig, 1859—).

AJSL American journal of Semitic languages and literatures (Chicago, etc., 1884—).

AOF Archiv für Orientforschung (Berlin, 1923—).

Assur ANDRAE, WALTER. Hettitische Inschriften auf Bleistreifen aus Assur. WVDOG, No. 46 (1924).

BKS Boghazköi-Studien, hrsg. von OTTO WEBER (Leipzig, 1917-24).

CE Cornell Expedition to Asia Minor and the Assyro-Babylonian Orient . . . Travels and studies in the Nearer East . . . (Ithaca, N.Y., 1911).

JRAS Royal Asiatic Society of Great Britain and Ireland. Journal (London, 1834—).

KAF Kleinasiatische Forschungen (Weimar, 1927—).

KUB Berlin. Staatliche Museen. Vorderasiatische Abteilung. Keilschrifturkunden aus Boghazköi (Berlin, 1921—).

M MESSERSCHMIDT, L. Corpus inscriptionum Hettiticarum. MVAG, 5. Jahrg., Nos. 4-5 (1900).

I M *Op. cit.*, Erster Nachtrag. MVAG, 7. Jahrg., No. 3 (1902).

II M *Op. cit.*, Zweiter Nachtrag. MVAG, 11. Jahrg., No. 5 (1906).

MAOG Altorientalische Gesellschaft, Berlin. Mitteilungen (Leipzig, 1925—).

MVAG Vorderasiatisch-aegyptische Gesellschaft. Mitteilungen (Berlin, 1896-1908; Leipzig, 1909—).

OIC Chicago. University. Oriental Institute. Oriental Institute communications (Chicago, 1922—).

OIP Chicago. University. Oriental Institute. Oriental Institute publications (Chicago, 1924—).

PSBA Society of Biblical Archaeology. Proceedings (London, 1879-1918).

RA Revue d'assyriologie et d'archéologie orientale (Paris, 1884—).

RS Revue sémitique d'épigraphie et d'histoire ancienne (Paris, 1893—).

RT Recueil de travaux relatifs à la philologie et à l'archéologie égyptiennes et assyriennes (Paris, 1870-1923).

WVDOG Deutsche Orient-Gesellschaft. Wissenschaftliche Veröffentlichungen (Leipzig, 1900—).

ZA Zeitschrift für Assyriologie und verwandte Gebiete (Leipzig, 1886—).

ZDMG Deutsche morgenländische Gesellschaft. Zeitschrift (Leipzig, 1847—).

INTRODUCTION

Not until the 19th century did the history of the ancient Near East begin to be revealed to the scientific world. Decipherment of the Egyptian hieroglyphs and then of the cuneiform script in which various languages of Western Asia were written has made those regions now comparatively well known. The last area to surrender to scholarly zeal was Asia Minor, the third great cultural center of the ancient Near East. Since the Hittite tablets found at Boghaz Kōi are written in good cuneiform, Bedřich Hrozný's decipherment of that language in 1915 has made them readable without any great difficulty.

About the middle of the last century, however, long before any Hittite cuneiform tablets had been found, there began to be noticed in southern Asia Minor and northern Syria many inscriptions in a strange picture-writing. A. H. Sayce was the first to point out the close relationship between the hieroglyphs of these two regions. Sayce was likewise the one who dubbed them "Hittite." At that time very little was known about the Hittites. So when long afterward the cuneiform tablets found at Boghaz Kōi proved to be the state archives of a real Hittite Empire, there was hopeless confusion in the use of the term "Hittite," the more so because in the interim its misuse linguistically had been matched anthropologically and archeologically. Until we have more definite knowledge of the true Hittites, their origin, their history, and their culture, any distinctions in terminology are impractical. At present we may accept this name as having a geographical connotation, i.e., as implying relation to or origin in the territory once inhabited or ruled by the Hittites. In that sense I have continued its use in this work.

I do not intend to give here the history of the decipherment of the Hittite hieroglyphic writing and language. However, since I shall have occasion to quote a few of the men who have had a hand in it and to whom I am indebted for previous discoveries, I shall mention here in what respects I agree with my predecessors. From Sayce I accept the reading of the king's name on the Tarkondemos boss,¹ the

¹ *Transactions of the Society of Biblical Archaeology*, VII (1880-82), 294-308.

reading of the city name Tyana¹ (corrected to Tini), and the identifications of the nominative ending *-s*² and the accusative ending *-n*.³ Peiser discovered the important functions of the division and ideo-gram marks;⁴ Jensen read the Carchemish group;⁵ Thompson, the Gurgum group⁶ and the personal-name tang;⁷ Cowley, the enclitic "and"⁸ and the Muški group;⁹ Frank, the Malatya¹⁰ and Barga¹¹ groups. From the scholars above mentioned I have accepted altogether the readings of about ten signs. Each one has also made a number of important observations and comparisons which, even though not acceptable, were always valuable in constraining me to consider every possibility and make some decision concerning it.

Thus far had decipherment progressed in the decades since the discovery of the Hittite hieroglyphic inscriptions when I undertook the difficult task of making speak the lion of Marash. That scholars are not at all agreed on the most important and essential results of the work of decipherment to date is shown by the few articles which have appeared in the meantime. Meriggi for his part published the very important discovery of the ideograms for "son" and "grandson,"¹² read the Hamath group,¹³ and established the differences among the various tangs.¹⁴ However, he blocked his own approach to real decipherment by accepting the impossible group "Syennesis" as a basis for his phonetic values and giving thereby the syllabic value *si* to the very important vowel *i*. His ideas differ entirely from those of Jensen, who believes that the hieroglyphic inscriptions are written ideographically for the most part and can, therefore, never be deciphered without the help of a bilingual inscription.¹⁵

In working on these mysterious inscriptions it was clear to me from

¹ PSBA, XXV (1903), 179.

² Wright, p. 173.

³ RT, XV (1893), 24-25.

⁴ *Die hethitischen Inschriften* (Berlin, 1892), p. 11.

⁵ ZDMG, XLVIII (1894), 324.

⁶ *A New Decipherment of Hittite Hieroglyphs*, p. 31.

⁷ *Ibid.*, p. 20.

¹¹ *Ibid.*, p. 20.

⁸ *The Hittites*, p. 78.

¹² ZA, XXXIX (1930), 199, § 12.

⁹ *Ibid.*, p. 58.

¹³ *Ibid.*, p. 191, § 8.

¹⁰ ADMG, XVI, No. 3 (1923), 18.

¹⁴ *Ibid.*, p. 179, § 6.

¹⁵ *Ibid.*, XXXV (1924), 251, and XL (1931), 29 ff.

the beginning that with a strict scientific method and plenty of patience decipherment was possible. The disadvantage of having no real bilinguals is compensated by a number of texts bearing in hieroglyphs the name of a city and found at a site the ancient name of which is known from Greek or Assyrian sources. Such a correlation is at least as valuable for the establishment of phonetic values of signs as any bilingual inscription. Like all my predecessors, then, I began with the study of the geographic names. It soon became apparent that, even though I had identified a greater number of cities, this method alone would not open the way to a complete understanding of these hieroglyphic inscriptions. It was necessary to undertake the slow and difficult task of making a complete concordance of all the words and groups of words contained in them. But here another difficulty arose. Never before had anyone tried to make a list of the signs and their variants, and all who have worked on this subject know how difficult it is to determine whether a given sign is independent or is only a variant of a better-known sign. Interrupting work on the concordance, I made a complete list of all the signs and their variants. This gave a definite basis for identification of the monumental with the corresponding cursive forms.

The concordance, when completed, proved fundamental not only for understanding the grammatical structure of the language but especially for identifying the most important phonetic variants—the real goal of my undertaking. This, together with the variant forms obtained from the sign list, made possible a real understanding of the character of the hieroglyphic inscriptions. I was able to determine (1) that the number of signs used phonetically does not exceed fifty-six or so, (2) that there are no sign values beginning with a vowel (e.g., *ap*), (3) that there are no closed syllables (e.g., *pam*), (4) that there are only syllables ending in a vowel (e.g., *pa*), (5) that closed syllables can be written only by using two syllables each ending in a vowel (e.g., *pam* = *pa+me*). In short, the general system of the Hittite syllabary corresponds exactly to that of the Cypriote syllabary, except that in the Hittite writing ideograms or word-signs are used along with the syllabary.

As soon as it became clear that all the syllables must end in a vowel, a new and very helpful way of fixing the values of the phonetic

signs presented itself. Thus, if $x+a$ was sometimes written as x only, it could be assumed that the sign x must contain in itself the vowel a . By this means I was able to establish in a few cases the value of the vowel in a syllabic sign the consonant of which remained questionable.

The so-called "internal" method of approach which I used lets the inscriptions speak for themselves without being influenced by other scripts or languages. The numerous appropriate names obtained thereby and the consistency of my results in general speak strongly in favor of the validity of my method. I divided my task into two entirely different parts: one, the decipherment of the writing; the other, that of the language. Working at first exclusively on the writing and ignoring grammatical considerations, I was able to establish values for some fifty of the syllabic signs, of which about thirty are fairly certain. Even during my work on the signs, however, my concordance yielded important grammatical results. I have not been backward in pointing out features of Hittite grammar about which I have no doubts. At the end of this work I give a short grammatical sketch which is to be considered rather as a summary of the various grammatical forms than as a real explanatory treatment.

The general impression I have derived from my studies is that the Hittite hieroglyphic inscriptions represent a dialect related to the cuneiform Hittite language, but that since these inscriptions are a few centuries later they are much more under the influence of Asianic languages than was the official language of the Hittite Empire.

The main results of my work are those above mentioned. With them in mind, how easy and clear the Hittite hieroglyphic writing now appears! If only one more site the ancient name of which is known from other sources would yield a hieroglyphic inscription containing that city's name, we should have a complete syllabary with all values ascertained and proved. I say only one; and this really would be enough, because if a new geographic name contained, let us say, four or five signs, two of which evidently had the values already assigned them in this work, the values for the rest of the signs could be satisfactorily identified. Since all my work on the syllabary depends on a few series in which the value of one sign is based on or proved by another in a similar group of signs, one sure new value may give the clue to a long chain of signs.

And the ideographic signs? Sometimes one would think that the good old Hittites almost knew how difficult it would be for modern scholars to decipher their mysterious language. To facilitate our efforts they very often added phonetic complements, sometimes repeating a whole word phonetically after its ideogram, thus enabling us to read approximately the name of the ideogram. Can one imagine anything easier? The ideogram gives the idea, and the phonetic complements give the name of that idea—a combination not available in even the cuneiform in which most of the Asianic languages are written.

For such reasons I am very optimistic over our prospects for better knowledge of the Hittite hieroglyphic inscriptions. I am hopeful that in a few years we shall be able to read and understand these hieroglyphic inscriptions better than any other ancient autochthonous records of Asia Minor.

From another point of view also the importance of the Hittite hieroglyphs should be stressed. Their origin lies entirely in the West; as indicated elsewhere in this work,¹ they must be connected with the Cretan pictographs. Since some of the signs in the two systems are exactly the same both in nature of the object represented and in form, these two systems of writing—both of them entirely different from Egyptian and cuneiform—must have a common origin. I hope that the decipherment of the Hittite hieroglyphs will open the way for the reading of the Cretan inscriptions also and thus unveil the greatest mystery of all antiquity, that surrounding the ancient Pelasgians.

¹ See pp. 79-81.

I

THE WRITING

GENERAL OBSERVATIONS

THE SIGNS

Hittite hieroglyphic writing, like the Egyptian, Cretan, and Sumerian, is pictorial in origin. The objects represented by its signs can almost always be clearly recognized, though the forms of the signs are more variable than in Egyptian. A single sign may have many different and even dissimilar forms. The great area over which Hittite inscriptions have been found evidently prevented such uniformity of design as was possible in the relatively small and shut-in country of Egypt. As out of Egyptian hieroglyphic developed cursive writings also, the hieratic and the demotic, so too the Hittite hieroglyphs are matched by cursive forms. Both styles are used in writing on both stone and lead. Hittite hieroglyphic inscriptions can thus be divided into two well defined groups: (1) monumental and (2) cursive. The monumental style is represented mostly by inscriptions found in Syria, i.e., those from Hamath, Carchemish, and Marash. The only cursive inscriptions found thus far are derived from Asia Minor.¹ It would, however, be dangerous to conclude from this that the cursive style was not used at all in Syria for ordinary purposes.

A highly developed kind of monumental writing is found in inscriptions from Emirghazi which are quite different from the rest of the Asia Minor inscriptions. Many signs are combined into one for aesthetic reasons. The separation of individual words and groups of signs is thus made much more difficult. Similar development of a monumental writing into an ornamental style can be observed in the scripts formerly used by the Turks, all derived from the simple Arabic alphabet.

Since a special kind of writing was used on seals, in many cases it is very difficult to identify on them signs corresponding to those of other inscriptions. The forms of the signs are much abbreviated and

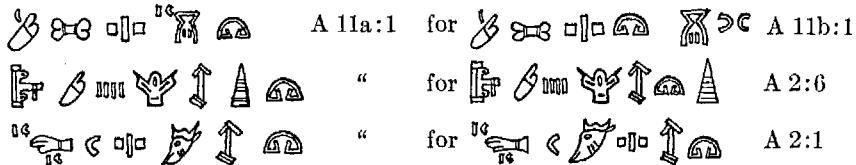
¹ The lead strips found at Assur constitute a possible exception. Cf. pp. 72-74 and 77.

simplified, and their order is uncertain in most instances, in spite of the fact that usually a legend is repeated on both sides of a seal.

The monumental and cursive forms may, for no apparent reason, be found mingled in one and the same inscription. Thus the head of a donkey appears in both its monumental and its cursive form in a single line (A 6:6). The same is true of a ram's head (A 6:1). Sometimes in such clear cursive writing as that found on the lead strips from Assur monumental forms representing, e.g., a donkey's head (Assur f Ro 31) and a goat's head (Assur f Ru 3), are used; but in these cases such forms probably indicate that the signs in question were to be read not phonetically but as ideograms.

The lines always read boustrophedon. This arrangement is found elsewhere in the Near East in, e.g., Cretan and South Arabic writing. The direction in which the Hittite is to be read can be easily recognized, because its signs always face toward the beginning of the line. The first line may start at either the right or the left. Though there is no established rule in this matter, the scribes preferred on the whole to start at the right. Among the long Carchemish inscriptions, only A 14 starts at the left; every one of the inscriptions on the lead strips from Assur, if we assume that Assur g is a continuation of Assur f, starts at the right. But in Marash the scribes preferred in general to begin at the left. There are few exceptions to the general rule concerning the order of the signs. In one text the signs are arranged in big groups from top to bottom (A 17a, frags. 1, 2, 3). In a few other cases the direction of a large part of a whole line is mistaken, e.g., in CE XII:2 and M VI:5 f.

The words are always grouped in short columns of one to five signs according to the size of the individual pictures or the height of the horizontal lines. The order of signs in the word groups is certain in the Assur inscriptions only; in other texts, especially in the long monumental inscriptions, the order of the signs is not so clear. As in Egyptian, signs are often transposed for aesthetic reasons. The following examples all come from Carchemish:

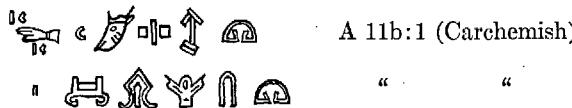


THE DIVISION MARK

Words are separated by a division mark  used very regularly in the Assur lead strips only. At Carchemish and Marash it occurs less consistently. It is not found at all at Hamath nor in most of the inscriptions of Asia Minor. Word division, even when indicated, is not always consistent. Sometimes a long group of signs was considered by one scribe as a single word, whereas by another it would be divided. Cf. Assur f Vo 20 with Assur f Vu 4. The sign is usually put at the beginning of a word so as to separate it from the preceding word. Very rarely is it placed in the middle of a group, as in Assur f Vo 20. In CE XII:4 it is put at the end of a word. In both these exceptional cases the division mark was misplaced in order to utilize a free space. Scribal mistakes are surely responsible for the few cases in which the division mark points in the wrong direction, e.g., M VIII A:4 and B:4; A 1b:1 and 3; A 2:6; A 11a:2; CE IX:3; CE XII:2.

The division mark functions in less usual fashion in the following cases:

1. In  |  (Assur f Ro 34) and in two examples illustrating *yi* on page 46 this sign is phonetic.
2. It is always present in the groups of signs denoting "son," "grandson," or other family relationships (cf. p. 64). Examples are:



3. In a few cases a sign like a double division mark occurs at the beginning of a line. This combination can be explained in CE XII:1 ( ) and CE XIII:2 as an abbreviation for the usual "grandson" group. We do not know what ideogram it may stand for in A 6:3, A 16e:2, M I, M X:6, and M XLVIII:3. It is used only in connection with the three signs , , , the first two of which are related in sound (cf. pp. 34-35).

THE IDEOGRAM MARKS

A special mark  indicates that a given sign or group of signs is to be read ideographically. This mark is not used very regularly. It

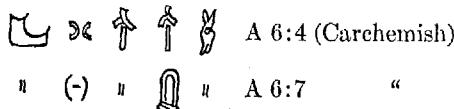
is sometimes omitted when the ideographic reading of the sign or signs in question has already been indicated in the preceding group, as in



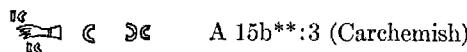
or when signs are involved which have only ideographic and never syllabic values, as in



Sometimes the ideogram mark is omitted for other reasons. The fact that a few signs point in one direction when used ideographically, and in the other when used phonetically, suffices to distinguish their readings. The sign representing the foot is an example:

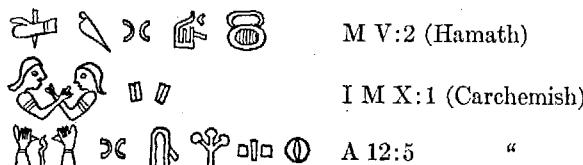


This ideogram mark is used in one special case:

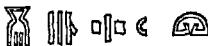


Probably the scribe started to write the word for "son," then, deciding to abbreviate it, put down the ideogram mark at the end of the unfinished group.

As in cuneiform writing, ideograms can be expressed by two or three different signs put together, for example:



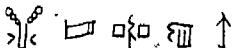
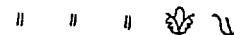
As in cuneiform and in Egyptian writing, ideograms may have phonetic complements of different lengths:

	"prince"	A 13d:1 (Carchemish)
	"prince"-si	M IXB:2 "
	"prince"(na)-si	A 6:1 "
	"prince"(na-a)-si	A 11b:1 "
	"prince"(i-na-na)-pa	A 11a:2 "
	"prince"(yu+ri-i-na)-si	A 11a:1 "

In some cases the phonetic signs following an ideogram are so numerous as to indicate that the word represented is completely spelled out. Examples are:

	X-ka-ti-ni-si	A 6:5 (Carchemish)
	X-yu+ri-x-ni-su	" "

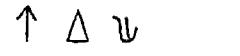
The groups

	tirsa(ti-i+ri-sa)-wā	II M XXXIII:3 (Bor)
	tirsa(ti-i+ri-sa)-ni	" "

seem to me to give real proof of complete phonetic spelling after an ideogram. The vine branch is followed by signs which spell *tirsa*. Now if we take into consideration a common phonetic interchange between *i* and *u*, this word would correspond perfectly to the Greek word *θύρος*, which stands for the emblem of the god Bacchus. The Hittite hieroglyphic picture will certainly help to clarify the origin of this strange Greek term. The word corresponds also to Hebrew *tirōš* and Assyrian *sirdšu*, "must." This agrees well with the usual derivation of viticulture from Asia Minor. The English word "wine," like Latin *vinum* and Greek *oīnos*, comes probably from the Hittite cuneiform *wi*, which gave rise also to Assyrian *inu*, Hebrew *yayin*, and Arabic and Ethiopic *wain*.

Many proper names of Asia Minor are based on the root *tirsa*. They include personal names: Θυρσος and Tirsas;¹ city names: Ταρσος in Cilicia,² Turša in Nuzi documents,³ Tyrsa in Asia Minor,⁴ Tirissa in Unqi;⁵ and ethnic names: Pisidian Τυρσηνος and Συρσηνος,⁶ the Teresh who participated in the Sea Peoples' invasion of Egypt,⁷ and the Tyrsenians or Etruscans of Italy.⁸

When an ideogram could be read in various ways, it was necessary, as in other pictorial writings, to add phonetic signs to show which reading was intended in any given case. Compare, for example, the diverse readings of the following ideograms:

	XX-ta-ji-su	A 7b:2 (Carchemish)
	XX-li-a-si	II M XXXIII:1 (Bor)
	X-gu-ta	A 13:5 (Carchemish)
	X-mi-ni	II M LIII (Nigdeh)
	X-ka-pa-ni	M I (Babylon)

A special ideogram mark of considerable minor importance has the form of a semicircle , as in

	Assur e Vu 9 (Assur)
	Assur e Vu 33 "

¹ Cf. A 7j:1.

² Sundwall, p. 217.

³ Chiera, *Joint Expedition with the Iraq Museum at Nuzi* (American Schools of Oriental Research, "Publications of the Baghdad School," *Texts*), Vol. I (Paris, 1927), 24:6 and 98:38.

⁴ Ramsay, *The Historical Geography of Asia Minor* (London, 1890), p. 414.

⁵ Boudou, p. 180.

⁶ Sundwall, p. 221. For Σ he gives Θ, misquoting from his source, J. R. S. Sterrett, *The Wolfe Expedition to Asia Minor* (American School of Classical Studies at Athens, "Papers", Vol. III [Boston, 1888]), p. 273.

⁷ Breasted, *A History of Egypt*, p. 467.

⁸ Perhaps *Tirās* of Gen. 10:2 also belongs to this group of geographic names; cf., however, R. Dussaud in *Babyloniaca*, XI (1930), 77.

THE TANGS

It is necessary to distinguish three different short strokes or tangs:

1. An oblique tang, placed always at the top of the word column and pointing in the direction of the writing, denotes very clearly a personal name. This stroke occurs regularly only in the Carchemish and Marash inscriptions and with a few personal names from Malatya and Babylon. Elsewhere it is practically unused. Proof that this oblique stroke determines personal names is given by many introductory lines, such as those of A 2, A 6, and A 11, in which it appears above the first sign of what is presumably a personal name immediately following the well known introductory word *i-me-a*, "I."

2. Much more difficult and complicated is the question of the tang attached to the middle or lower part of a sign. It also tends to point in the direction of the writing. The value of this type of tang can be deduced by comparison of the following examples:

	<i>karka(ka)-me-sá</i>	A 15b**:1 (Carchemish)
	^a <i>karku(ku)-u-si</i>	A 11a:3 "
	^a <i>ka+ri-ku-u-ā</i>	A 13d:6 "
	<i>ka+ri-ka-me-sá</i>	A 4b:1 "
	<i>gu+ri-gu-ma-i-na-a-sá</i>	I M XXI:1 (Marash)

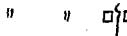
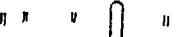
This tang is evidently phonetic and pronounced after the syllable to which it is attached. The variant writings of *karku* are explained on pages 27-28. The first sign in the fourth example is evidently a compound formed with a quite distinctive tang or pair of tangs. The third and fifth examples contain the simplest form of phonetic tang. Comparison with the other examples indicates that both the simple and the unusual tang contain the sound *r*.¹ The vowel which follows the *r* in the simple tang at least is given by comparison of

	<i>u+ri-ni-i-na-a-si</i>	
		<i>Syria, X, Pl. XXXII:2 (Tell Ahmar)</i>
	<i>u+ri-i-ni-i-na-su</i>	CE V:3 (Kara Burun)

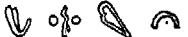
¹ An alternative explanation would be that the four projections found in the unusual tang represent the syllable *me*. The latter occurs compounded with *pa* and other

In the second of these two groups the phonetic complement *i* proves not only the nature of the vowel which accompanies *r*, but also shows that the vowel here is to be pronounced. In the first example, however, without the phonetic complement, the situation is ambiguous. In fact, it is usually difficult, and sometimes impossible, to decide whether the tang is to be pronounced with its full value *ri* or is merely used to add an *r* (cf. Author's Note).

It would appear that, as in Egyptian, the Hittite *r* often weakens to a *y*. Compare

	<i>i+ri-mi-ta</i>	Assur a Ro 3 (Assur)
	<i>i -mi-ta</i>	Assur a Ro 6 "
	<i>ná-pi-i+ri</i>	A 13a (Carchemish)
	<i>ná-pi-i</i>	" "
	<i>XX-li-a+ri-si</i>	CE IX:1 (Baghche)
	<i>XX-li-a -si</i>	II M XXXIII:1 (Bor) ¹

That the tang *r* sometimes does duty as *l* appears from

	<i>ni-i+r/li-li-si</i>	M XLI:1
--	------------------------	---------

This close relationship between *r* and *l* is well known from Egyptian and Chinese also.

As seen in the foregoing examples, the phonetic tang can express any one of the related sounds *r*, *l*, or *y*, with or without the addition of an *i* vowel. The use as *y* often amounts merely to an indication that a preceding *i* is long.

signs (cf. pp. 24, 34, and 41). The geographic name -*ga-mis* quoted by Thureau-Dangin, *Le syllabaire accadien* (1926), p. 31, should in that case be read *gamgamis* instead of *gurgamis*. This is an example of how our hieroglyphic inscriptions might help to correct the reading of a proper name written in cuneiform.

¹ If the name *Gaga* (Knudtzon, p. 1015) really corresponds to *Gargamiš*, we would have here another example of the weakness of *r*, a weakness which can be observed also in such geographic names as *Meturna* and *Metuna*, *Darmešeq* and *Dimašqi*. Cf. also Thompson, *A New Decipherment*, p. 31, for other examples.

This tang occurs most commonly with 𒌵, 𒌵, whereas other signs, such as 𒌵, 𒌵 (but 𒌵 can have it), and 𒌵¹ (but 𒌵 can have it), never take it. It is probably derived from the single vertical stroke which occurs as an independent sign for *ri* in our syllabary (frontispiece). The same sign is even used in A 12:3 and 4 as an ideogram.

3. A third straight tang, attached usually to the lower part of an ideogram, stands usually between the two halves of the commoner ideogram mark (p. 8). Compare

𒌵 𒌵 𒌵 ①	<i>X-ta-ni-ta-wi</i>	A 11b:4 (Carchemish)
𒌵 𒌵 𒌵 ①	“ <i>sá-gu+ri-i-na</i>	A 11c:3 “

Since the second group contains the river name Sagur (p. 26), and since the first sign of that group is (when without the tang) the ideogram for “water,” I would suggest that the tang there specializes that sign into an unpronounced determinative for “river.” Whether it has a specializing function in the first group too remains uncertain.

From the preceding paragraphs we have observed three different uses of straight tangs:

Determinative of personal names:	𒌵 𒌵 ① ; 𒌵 ①	A 11a:1 (Carchemish)
Phonetic:	① ① ① ; ① ①	A 13d:6 and A 12:4 (Carchemish)
Ideogrammatic:	① ① ① ; ① ① ① ①	A 11b:4 (Carchemish)

Besides the straight tangs there is also a curved tang, ܹ. Signs with which it has been found include

ܹ, ܹ, ܹ, ܹ, ܹ, ܹ, ܹ, ܹ, ܹ, ܹ, ܹ, ܹ, ܹ. Upon comparing these with the signs which take the straight tang, it appears that signs taking one form do not take the other.² This

¹ Except once in A 15b**:3.

² Except that ܹ has a straight tang in M V:2 and in Assur e Ro 24.

shows how consistent were the users of this hieroglyphic writing and how definite were its rules. From comparison of

	<i>wā+ri-wā-me-si</i>	A 7j (Carchemish)
	<i>par+x-wā-me-si</i>	A 12:1 "

it would appear that this symbol, like the straight phonetic tang, may contain the sound *r*.

 is very rare as an independent sign. It appears in the midst of a group of signs in the following cases only:

	<i>i-me-rx-sa</i>	Assur g Vo 7 (Assur)
	<i>i-me-rx-wi</i>	A 15b* (Carchemish)
	<i>i-me-rx-tá</i>	CE V:1 (Kara Burun)
	<i>X-pa-rx-tá</i>	AAA, II, Pl. XXXVIII:7 (Tell Ahmar)

THE WRITING OF SYLLABLES

A student of cuneiform would look in Hittite hieroglyphs for closed syllables written by combining two simple syllables in the form *ba+am=bam*, *gu+ur=gur*, etc. That these, however, do not occur is shown by the following examples:

The country name Gurgum is written *qu+ri-qu-ma* (p. 18), not *gu-ur-qu-mu*.

 "sun" *pa-me-ma-si*, evidently corresponds to the personal name Bamma (p. 41).

 and  in A 4 a:3 and 3:4 (Carchemish) are variant writings of a divine name which cannot be transliterated otherwise than as "*gu-pá-pi-pi-si*" and "*gu-pá-pi-si*", Gupapis.

We may, then, draw the conclusion that Hittite hieroglyphs contain no syllables ending in a consonant. Upon arriving at this point, I looked over my list of phonetic signs and saw, with astonishment, that all but one (since changed) of the values which I had previously assigned ended in a vowel.

I then counted the signs which I had been considering as phonetic and found that they totaled fifty-six, a quantity so small that it ac-

cords well with the conclusion previously reached.¹ The vowels found number only four: *a*, *e*, *i*, and *u*. There are twelve consonants (p. 74). In such series of syllables as those with *m* and *n* (see frontispiece), in each of which more than four characters appear, it is evident that there must be consonantal differentiations not expressed in the cuneiform characters which served me as a key in the attribution of values. In these instances, for example, some of the *m*'s and *n*'s may represent such sounds as English *ng* in "sing" and French *n* in "un." Again, in the group with *t* the sound *th* may occur.²

The Hittite usage above noted is in striking agreement with the Cypriote. I should explain that I had reached my own conclusions as to Hittite before seeking possible parallels elsewhere. Upon comparing the Cypriote syllabary, however, its manner of writing closed syllables was seen to be clearly analogous. The Cypriote, for example, would write such words as *ἀργύρω* in the form *a-ra-ku-ro*, with a silent *a* in the second syllable on account of the sounded *a* in the first. Our Hittite inscriptions, however, prefer for such a purpose syllables ending in *i*.

THE SYLLABARY

READINGS BASED ON GEOGRAPHIC NAMES

Determinatives of geographic names were identified long ago. They represent either one or two mountain peaks or a combination of these two signs. The single peak  apparently indicates a city. Though its outline is the same as that of the tiara , the ideogram for "king," the two characters are clearly distinguished by their interior markings. The twin-peak sign  seems to stand for "land," "country." When repeated in the form  , the plural is indicated. When the "city" sign is followed by the "land" sign, the resulting combination  

¹ In making up my list of phonetic signs, I used every sign which occurred more than twice beyond the second place in its word group in all the hieroglyphic inscriptions taken together. Signs beginning a word group, and even those standing in second place in a group, could not be taken into account because, if rare, they are usually ideograms.

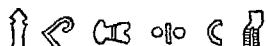
² For further phonological details see pp. 74-76.

evidently represents the Assyrian *māt ḫli*, "land of the city (of . . .)."¹ In spite of their difference in form, these two signs often interchange (cf. p. 24).

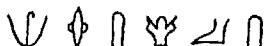
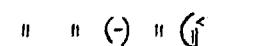
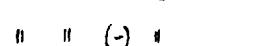
Since the determinatives just mentioned regularly follow groups of characters representing geographic names, it becomes relatively easy to distinguish the latter in the Hittite hieroglyphic inscriptions. Especially valuable are the geographic names in such inscriptions as are definitely known to have been found at a site the ancient name of which is familiar to us from other sources. Our simplest approach to the identification of Hittite syllable-signs is along this line.

Place-names meeting the conditions just outlined are five in number: Hamath, Gurgum, Tunni, Ḫaleb, and Carchemish.

1. HAMATH

	<i>a-ma-ti-i-na</i> ("land") ²	M IV A:1 and B:1 (Hamath)
	<i>a-ma-ti-i-na</i> ("land")	M VI:1 "

The first sign in the foregoing writings is doubtless a vowel,³ since in otherwise parallel groups of signs it is often omitted. Compare its occurrence in a more usual form in

	<i>X-la-a-sa-pa-a</i>	Assur g Vu 19 (Assur)
	<i>X-la -sa-tá</i>	Assur g Vo 21 "
	<i>X-pa-a-su</i>	A 6:1 (Carchemish)
	<i>X-pa -su</i>	A 15b**:1 "

The vowel *a* is evidently the one intended.⁴

¹ Sayce in PSBA, XXV (1903), 142.

² Though our demonstration of values follows instead of preceding this and other transliterations, it seems to us most convenient for later reference to insert the latter regularly directly after the hieroglyphs themselves.

³ The city name Hamath appears without initial *h* as Amat in Luckenbill, I, § 715.

⁴ The identity of the two forms of *a* appears from their interchange as phonetic complements of *la* in *mi-i-la-la-a-sá* and *X-la-a-sa-pa-a* on p. 38 and of *na* in "prince"-*na-a-si* and "son"-*na-a-mi-[. . .]-wā-si* on p. 22.

The second sign appears in two forms, the monumental and the cursive. Their equivalence is shown in the following parallelisms:

	<i>i-ma-ni</i>	A 11b:3 (Carchemish)
	<i>i-ma-ni</i>	Assur f Ru 13 (Assur)
	<i>i-ma-wā</i>	A 11b:6 (Carchemish)
	<i>i-ma-wā</i>	Assur e Vo 23 (Assur)

The position of this symbol in the name indicates for it the value *ma*,

The third sign, then, presumably begins with *t*. That the accompanying vowel is *i* is suggested by the seal of Indilimma (p. 36).

2. GURGUM

																																																																																																																																																																																																																																																																																							<img alt="Monument

THE SYLLABARY

after *ti* not only here but in the writing of Hamath (pp. 17-18), as well as in such examples as the following:

	<i>i-ti-i-ni-e</i>	A 12:5 (Carchemish)
" " (-)	<i>i-ti -ne-e</i>	M II:4 (Babylon)
	ⁿ <i>ka-ti-i-si</i>	A 2:1 (Carchemish)
	ⁿ <i>ti-i+ri-sá-a-su</i>	A 7j:1 "
	ⁿ <i>a-si-ti-i-tu-ma</i>	A 11a:1 "

It has long been recognized that the third sign found in the writing of Tunni contains an *n*.¹ If our reading of *ti* is correct, the vowel of this *n* sign also is *i*, for it occurs commonly with the same phonetic complements in such combinations as

	<i>X-ni-i-ni-i-su</i>	I M XXI:3 (Marash)
	<i>ni-i-ni-pi-i</i> ("city") ²	A 12:3 (Carchemish)

In one of the examples above (A 12:5) *ni* is followed not by *i* but by a different sign. The latter occurs again in the parallel example (M II:4) after a variant of *ni* itself. The new vowel sign is seen again in

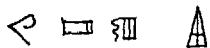
	<i>wa-a-pi-i-e</i>	A 6:3 (Carchemish)
	<i>wa-c-pi-i</i>	" "
	<i>e-x-e-wa</i>	Assur f Vo 12 (Assur)
	<i>e-x -wa</i>	Assur a Vo 11 "

In A 6:3 it follows once *i* and once *wā*. Hence its value probably lies between *i* and *a*, and we may call it *e*. The variant of *ni* in M II:4 will then be *ne*. Further discussion of *ne* will be found on pages 43-44. A sign looking like a combination of *e* with the tang seems to have the value *pā*; compare pages 49-50.

¹ Sayce in RT, XV (1893), 23-25.

² I.e., Nineveh?

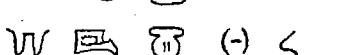
A royal name found in this same inscription is

 *ma-ti-sá* "king"-i II M XXXIII c:4 (Babylon)

It begins clearly with *ma-ti*. Now in the Assyrian inscriptions¹ we find mentioned Matti (Mati) of Atuna (Tunni). Both the geographic and the royal name evidently correspond to those we have just found in hieroglyphic.² Together they corroborate our readings of *ti* (p. 18) and *i* and *ni* (p. 19).

This city of Tini (Assyrian Atuna or Tunni) is not the noted city of Tyana but a neighboring city called Tynna by Ptolemy.³ In any event this place-name is one of several examples of variation between cuneiform and Hittite hieroglyphic methods of indicating shades of sound between *u* and *i* (cf. pp. 75-76).

4. HALEB

	<i>halpi(pi)-[...]</i> ("city")
	CE XXIV:1 (Aleppo)
	<i>halpi(pi)-i-na-wa</i> ("land")
	M III B:3 (Hamath)
	<i>halpi(pi)-i-ná-si</i>
	M II:1 and 6 (Babylon)
	<i>halpi(pi) -na</i>
	Assur 8 (Assur)

This same name is used as a personal instead of a geographic name in A 1a:4, A 7i, M XVI:1, and CE XXI:1, and again at Marash as the beginning of a personal name in I M XXI:1 and 2 and II M LII:1 and 3. Hence it was necessary to find a proper name used in both these ways. Now Frank⁴ had noted Šanhar as a geographic and Sangara as a personal name. So I tried the ideographic value *sangar* for the first two signs of this place-name taken together, and assumed for the third sign the value *ri*; but this reading could not be maintained, for

¹ Luckenbill, II, §§ 7, 55, and 214, and Mayer and Garstang, p. 12.

² It is, of course, possible that not the same king but another of the same name is intended in the Assyrian. However, full identity is likely, for the statue from Bor which bears the hieroglyphic inscription shows indubitable Assyrian influence and could well belong to the same period, that of Sargon II, as do the Assyrian texts in question.

³ Forrer, *Provinzeinteilung*, p. 72. Tyana is called Tuwanuwa in the Boghaz Kōi inscriptions; see Mayer and Garstang, p. 47.

⁴ "Die sogenannten hettitischen Hieroglypheninschriften," p. 21.

the third sign often begins words, whereas in most of the languages of Asia Minor the consonant *r* is not used initially.¹

Since the first of the foregoing groups of writings was found at Aleppo, I then assumed that it represented the name of that city. Inasmuch as the first two signs appear in this grouping in these instances only, they seem to represent jointly the rare ideogram *halpi*. The third sign 𒄑 appears to be a phonetic complement. We may read it as *pi*, since it is followed in two of our examples by the *i* which has been identified above. That the *i* may be omitted at will is apparent from the other two examples as well as from the groups

𒄑 𒀭 𒀭 𒀭 *pi-i-pa-ā* CE XII:4 (Bulghar Maden)

" (-) " 𒀭 *pi -pa-a* CE XII:3 "

𒄑 𒀭 𒀭 𒀭 *pi-i-tá* A 11c:2 (Carchemish)

" (-) " *pi -tá* A 11b:3 "

The root *halpi* appears in cuneiform² in such personal names as Hallabaa, Halpaa, Halpaššulubiš, Kalparunda,³ Halbišu,⁴ Halpamuwaš,⁵ and Halpahiš,⁶ and in such city names as Ḫalbumaš, Ḫalippašuwaš,⁷ Ḫalbuda, Ḫalbuknu, Ḫallab, and Ḫalpi (= Halman).⁸ These numerous names, especially the personal ones, which come in general from the same territory, show how common was the use of this root.

The ending *-ina* found above with the name of Halpi corresponds

¹ Cf. Hittite, Hurrian, Mitannian, Lycian, and Lydian.

² It appears in Egyptian also in a personal name equivalent to cuneiform Halpašili or Halpašarri; see Luckenbill, AJS, XXVI (1909/10), 99.

³ See Tallqvist, pp. 83 ff.

⁴ Harper, *Assyrian and Babylonian Letters*, No. 633:5.

⁵ Friedrich, KAF, I (1930), 362.

⁶ Hrozný, BKS, III (1919), 131.

⁷ Mayer and Garstang, p. 16.

⁸ Names, but not equation, from Boudou, pp. 68 ff.

to a recently discovered spelling of that city's name as Halbini.¹ This ending 𐎠[**š**] 𐎵 -ina has, in fact, been present in each of the four place-names thus far discussed. For it -ini or -ni is sometimes substituted, as in

		<i>e-mi+ri-("land")-i-ni-pa ("city")</i>
		A 15b**:4 (Carchemish)
		<i>[...]-gu-i-a-ti-("city")-i-ni</i>
		CE XXVI A:8 (Samsat)
		<i>X-a-("land")-ni-ta</i>
		<i>Syria, X, Pl. XXXIII:6 (Tell Ahmar)</i>
		<i>X-("land")-ni-pi-i-si</i>
		<i>AAA, II, Pl. XXXVIII:4 (Tell Ahmar)</i>

Interchanges of the syllables which we call *ni* and *na*, but without the initial *i*, are seen in

As we have already seen, is to be read *ni*. Hence also contains an *n*. It and , found already as variants in the names of both Gurgum and Halpi (pp. 18 and 20), interchange in the following examples also:

¹ Cf. Viroilleaud, "Les inscriptions cunéiformes de Rās Shamra," *Syria*, X (1929), 305.

Since both are followed above by the same phonetic complement *a*, they may be transliterated as *na* and *ná* respectively.

Now the ending *-ina* appears as *-na*, meaning "town" or "city," in the Haldian language.¹ Under the form *-ene* it was common later in such country names as Osroëne, Melitene, and Commagene. Both in Haldian and in the Hittite cuneiform such an ending is sometimes used, sometimes omitted.² In Hittite it apparently adds the "country" idea. In fact, this ending seems to form a part of the Hittite hieroglyphic noun for "land" or "country." Cognate forms of this word appear in so many languages of Western Asia that it was quite natural to seek it, and not at all surprising to find it, here also. We have, for instance, Hurrian *uminas*, Elamite *humanis*, and Haldian *ebani*.³ In Hittite cuneiform the word for "country" is written *UD-ne-e*, which is commonly read *utnê*.⁴ But I would read *UD* as *úmi* or *úme* to give the reading *umene*. This is often used in such gentilic forms as *Ḫattušumnieš* (= *Ḫattuš+umni+eš*), *Arinnumniš*, *Šal-lambumenieš*, and *Kartapahumenieš* (also in the form *Kartapa-humnieš*).⁵ According to Forrer⁶ this gentilic ending later became *-ovēs* in Greek geographic names.⁷

In hieroglyphic the ideogram for "country" is often used as a determinative. In other instances, however, addition of phonetic complements proves that the ideogram was actually pronounced. Examples with the final syllable or syllables repeated are shown on page 24.

¹ Cf. *Corpus inscriptionum Chaldaicarum*, p. 42: *Qu-me-nu-na-ú-e*.

² The geographic names *Hubišna* and *Hubuškia*, *Kizwadna* and *Katpatuka*, *Kinahna* and *Kinahbhi*, together with the old Cappadocian name *Wulušna* as compared with the cuneiform Hittite *Wiliša* (*Uluša*), seem to show the contrast between forms with and without the geographic ending *-na*. In the hieroglyphic texts *Halpi* appears perhaps without this ending in CE XXIV:1 (cf. p. 20), and both *Gurguma* and *Gurgumaina* occur (cf. p. 18).

³ Cf. Bork in *MVAG*, XIV (1909), Part 1/2, 79.

⁴ Hrozný, BKS, III (1919), 96 f., and Friedrich, "Staatsverträge des Hattireiches in hethitischer Sprache," *MVAG*, XXXI (1926), 85.

⁵ Hrozný, "Die Sprache der Hethiter," BKS, I (1917), 50 f., and *Code hittite* (1922), p. 16.

⁶ *Mitteilungen der Deutschen Orient-Gesellschaft*, No. 63 (1924), p. 4.

⁷ Against Kretschmer, "Der Name der Lykier und andere kleinasiatische Völkernamen," KAF, I (1930), 2 f.

		<i>umena(na)</i>	CE XII:2 (Bulghar Maden)
"	"	<i>umena(na-a)</i>	A 2:3 (Carchemish)
"	"	<i>umena(na-ā)</i>	A 11b:4 "
"	"	<i>umena(na)-sa-a-ni</i>	A 15b**:4 "
"		<i>umena(ná-ā)</i>	A 11a:2 and 3 "
"		<i>umena(ná-ā)-pa</i>	A 11b:5 "
"		<i>umena(ná-ā)-sa</i>	A 3:3 "
		<i>umena(me-na)</i>	A 11b:2 "
"	"	<i>umena(me-na-ā)-si</i>	A 11b:1 "
"	"	<i>umena(me-na-a)-ni</i>	A 11c:5 "

The *s* which sometimes occurs in a final syllable is evidently the nominative ending.¹ In the nominative, then, we may read the word "country" as *umenas*. This corresponds to *umene*, the same word with the same meaning, found in Hittite cuneiform if our transliteration of the latter is correct.

Further proof that our readings *na* and *pi* are correct appears from a consideration of

a-pi-na-sa-wā+wa ("city") A 11b:2 (Carchemish)

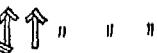
This city, probably pronounced Abina, may be compared to two cities already known. One, *a-bi-na* or *a-be-na*, was situated in Syria according to the Boghaz Kōi inscriptions;² the other, *a-be-na*, *a-be-na-aš*, or *a-bi-na-aš*, is mentioned in the Nuzi tablets.³ The sign at

¹ Cf. Sayce in Wright, *The Empire of the Hittites*, p. 173.

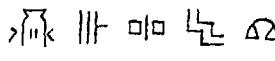
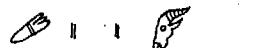
² Mayer and Garstang, p. 3.

³ Chiera, *Joint Expedition with the Iraq Museum at Nuzi* (American Schools of Oriental Research, "Publications of the Baghdad School," *Texts*), Vol. I (Paris, 1927), 96:35, 41, 42; 94:41, 42; Vol. II, 187:8.

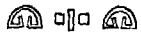
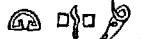
the end of our word is a compound, the value of which, *wā+wa*,¹ is obtained from a comparison of the groups

	<i>wā+wa-pi-i-tá</i>	A 11a:6 (Carchemish)
	<i>wā-wa-pi-i-tá</i>	" "

Some of the writings of Gurgum, Tunni, and Haleb given above add the nominative ending *-s*. The syllabic signs ordinarily used for that ending are those found in

	<i>"prince"-yur+i-i-ná-si</i>	M II:1 (Babylon)
	<i>"prince"-yu+ri-i-na-sá</i>	I M XXI:1 (Marash)
	<i>ka-ma-ná-si</i>	M XI:3 (Carchemish)
	<i>ki-ma-ná-sá</i>	M XI:4 "

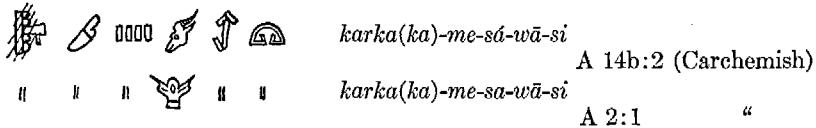
The last sign found in the first example in each pair above is often followed by the sign *i*, which determines for us its value *si*. Compare from the tables of particles (pp. 60-61) two instances in the groups

	<i>i-si-e</i>	A 2:5	(Carchemish)
	<i>pi-si-e</i>	A 2:6	"
	<i>si-i-si</i>	A 17e*2:2	"
	<i>i-ma-wā</i>	A 6:5	"
	<i>pi-i-ma-wā-ta</i>	A 15b**3:3	"
	<i>si-i-ma-ta-e</i>	A 6:7	"

The sign , found at the end of the second example in each pair of those used to illustrate the nominative ending, interchanges not

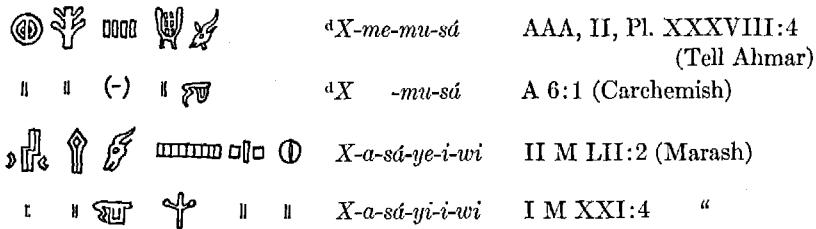
¹ The separate signs *wā* and *wa* are explained on pp. 30-31.

only with *si*,¹ as there noted, but with a third *s* sign, , which has the value *sa* (cf. p. 28), in

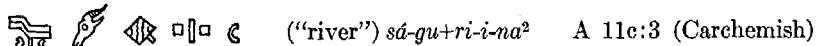


Moreover, it is once followed by a phonetic complement *a* (p. 19). Hence *ʃ* must contain some sort of *a* sound. We transliterate it, then, as *sá*.

That **ȝ** is the cursive form of  is shown by their interchanging in



Further proof of the value $sá$ is given by the geographic name



This name gives us a confirmation of the *gu* sign and another example of the geographic ending *-ina*. The whole group reads “country (*-ina*) of the river Sagur,” a region well known from Assyrian inscriptions.³

5. CARCHEMISH

The most important and most common place-name is that found in almost every inscription of any length from Carchemish. I give on page 27 all of its occurrences.

The sign which comes first in all cases except No. 14 is followed regularly by a sign which must be a phonetic complement, since

¹ But apparently only where the vowels are silent.

² Cf. p. 14.

³ Boudou, p. 152.

																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									<img alt="Ass

Judging again by the Assyrian, the third sign in the city's name has the value *me*, and the signs usually found in fourth place,  and , contain *s*. From the following examples it appears that the vowel of  is *a*:

Hence it can have a consonantal value. It is, however, sometimes omitted; compare

§ ſ ſ | ① o o ˥	²a-nu-wi-i-wā	Assur f Ro 29-30 (Assur)
" " ④ o o ˥ V	²a-nu -i-wā-e	Assur f Ro 24-25 "
Է ① Վ	pi+ri-wi-e	A 1a:2 (Carchemish)
" ④ Վ	pi+ri -e	" "
Ա Ջ ① Ջ	wā-ā-wi-i	A 11a:4 "
" " (-) "	wā-ā -i	M XVI A:1 (Malatya)

It seems, then, to contain the weak labial *w* rather than the strong labial *p*. That the vowel accompanying it is *i* is shown in

① o o Ջ ˥	wi-i-ti-ta	Assur f Ro 15 (Assur)
④ (-) Ջ Վ	wi -ti+ri-ni	Assur e Vu 8 "
① o o Հ ˥	wi-i-ma-wā	Assur e Ro 11 "
" (-) Հ Ջ	wi -ma-sa	CE V:2 and 3 (Kara Burun)

But, though ① is normally *wi*, it sometimes interchanges with vowel sounds also, thus confirming our first thought that it might be a vowel. Compare

Ւ ① Վ	X-wi-e	Assur b Vu 8 (Assur)
" " Ո	X-wi-a	Assur b Vu 13 "
" " ①	X-wi-wi	Assur a Ro 2 "

It seems, then, that when its *i* is silent, our *wi* may be equivalent to an *u*. On this basis we transliterate it as *u* when it follows Վ, which it thereby identifies as *ku*. The sounds *wi* and *u* are related in cuneiform Hittite also; compare *wiluša* and *uluša*, *wida* and *uda*.¹

A genitive ending *wa* is common in many of the Asianic languages, such as Hurrian and Proto-Hattian. That the value of the consonant

¹ Friedrich in MVAG, XXXI (1926), 42, and other examples in MVAG, XXXIV (1930), 42, 167.

in the Hittite genitive ending $\hat{\wedge}$ is *w* is shown by the interchange of this sign with *wi* in

	<i>e-pi-wa</i>	Assur b Vu 17 (Assur)
	<i>e-pi-wi</i>	Assur a Vu 12 "

A similar sign, barred across its lower end, interchanges with *wi+ri* in

	<i>wā-tā-wi</i>	Assur g Vo 10 (Assur)
	<i>wi+ri-tā-wi</i>	Assur f Vu 3 "

If we may assume for Hittite the equivalence of *w* and *m* which is well known in Semitic cuneiform,¹ then the *a* is corroborated by the use of *ma* as a variant for the foregoing signs in such cases as

	<i>X-a-pi-ma-pa-a</i>	A 6:1 (Carchemish)
	<i>X-a-pi-wa-a-pa-[. . .]</i>	M XXIV A:2 (Marash)
	<i>tarku(ku)-wa+ri-ma-su</i>	II M XXXI:1 (Agrak)
	<i>tarku(ku)-ni-wa+rx-wā-su</i>	CE XII:1 (Bulghar Maden)

Again, we find in Lycian the similar sign $\hat{\wedge}$, of which Bork says: "Es ist ein Trübungslaut unklarer Färbung, der jedoch oft mit *a* wechselt."²

From the following groups we see that there is very little difference between $\hat{\wedge}$ and $\hat{\wedge}$:

	<i>X-ki-wa-a</i>	A 4a:1 (Carchemish)
	<i>X-ki-wā</i>	M VII:2 (Kirch Oghlu)
	"son"-ná-mi-wā	A 4b:2 (Carchemish)
	"son"-ná-mi-wa	A 4b:8 "

¹ Cf. Babylonian *awīlu*, Assyrian *amēlu*.

² *Skizze des Lükischen* (1926), p. 15.

The sign  stands in the same relation to  as does  to . In such examples as

    *umena(me-na-ā)-si* A 11b:1 (Carchemish)

    *umena(me-na-a)-ni* A 11c:5 "

   *me-ā-wā* A 2:3 "

   *me-a-wa* A 11b:3 "

we already know the *a* vowel. It is a fair presumption, then, that  is a long *ā*. Like *a* it is often omitted. Compare

    *umena(na-ā)-sa* A 3:1 (Carchemish)

    *umena(na-)-sa* A 15b**:4 "

    *i-pa-ā-ta* II M LII:3 (Marash)

    *i-pa- -tā* II M XXXI (Agrak)

If the two bars across the bottom of  serve as diacritical marks to indicate its length, they may be supposed to serve the same purpose in ; so we may call the latter *wā*. It occurs with the phonetic complement *ā* in

    *wā-ā-i* M XVI A:1 (Malatya)

    *wā -i* I M XLVI:1 (Kara Burun)

    *wā-ā-wi-i* A 11a:4 (Carchemish)

At the end of No. 9 in the writings of Carchemish we have an animal head corresponding to either  or . That these two pictures represent the same sign is proved by the fact that each has the same cursive form  in the following personal names:

	<i>mi-i-ta-li-sa-sá</i>	I M XXI:2	(Marash)
	ⁿ <i>mi-i-ta-li-sa</i>	II M LII:4	"
	ⁿ <i>mi-i-wa-sa</i>	I M XXI:3	"
	ⁿ <i>mi-i-wa-sa</i>	II M LII:3	"

That the vowel in this sign is *i* is shown in the foregoing personal names, where it is followed by the *i* vowel itself, and also in

	"son"- <i>na-mi-i-wā-si</i>	A 11a:1	(Carchemish)
	"son"- <i>ná-mi -wā</i>	A 4b:2	"
	<i>pá-mi-i-a</i>	A 11c:4	"

Now

	<i>a-e-wi-mi-i-na-si</i> ("city")	A 4a:2	(Carchemish)
	<i>a-e-pa-mu-i-[. . .]</i> ¹	I M XIV 7:3	"

, in turn, in its cursive form

	<i>X-X-me-si</i>	M XXXIX:6	(Nineveh)
	<i>X-X-mu</i>	M XXXIX:4	"

All these signs, then, have a consonantal element *m*, and

in its various forms has the value *mi*. Since we have previously found the values *ma* and *me* for other signs, we are probably justified in transliterating

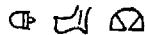
as *mu*.

The sign *mi* appears in two geographic names which, aside from their confirmation of the value of this sign, have important historical bearing. The first name is

mi-su-wā ("city") A 6:3 (Carchemish)

¹ That these writings both refer to the same city appears from a broken text, I M XII 2:1 (Carchemish), where we find [. . .]-*wa-e-mu* ("city").

Since the third sign in this name is a case ending (cf. pp. 29 and 54), the first two signs give the name itself. The second sign contains *s*, for it interchanges with  in

 X-*pa-si* A 4b:2 (Carchemish)

 X-*pa-su* A 5a:1 "

 *ki+wā-ma-sa-a-si* I M XXI:1 (Marash)

 *ki+wā-ma-sa-su* I M XXI:2¹ and 3 "

This syllable seems never to have a phonetic complement. Since, however, signs for *si*, *sá*, and *sa* have already been identified, *se* and *su* are its most likely values. For the sake of uniformity I shall transliterate it regularly as *su*. The name in question, then, is Misu, which may be compared with the ethnic name *Miši* known from the Tell el-Amarna letters.²

The second geographic name beginning with *mi* is

 *mi-sá-ka-wā* ("city") A 6:3 (Carchemish)

Since *wā* is again a case ending, this group of signs gives us the name Miska, evidently equivalent to Assyrian *Muški*³ and found again in Greek *Μοσχοι*, the name of a people of Asia Minor often mentioned in Assyrian records from the time of Tiglathpilesor I to Sargon II.

Our study of geographic names has established the following values:


a, ma, ti, gu, i, ni, e, ne, pi, na, ná, si, sá


ka, me, sa, wi/u, ku, wa, á, wā, mi, mu, su

¹ First sign broken in l. 2.

² Knudtzon, pp. 1197 and 1470, written *Mi-lim*. This people is mentioned in connection with ships at sea. Is it possible that its name corresponds to *Muσιοι*, as *Muški* (see below) does to *Μοσχοι*?

³ See section on phonology (pp. 75-76) for relationship of *mi* and *mu*.

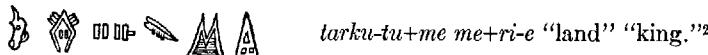
READINGS BASED ON BILINGUAL INSCRIPTIONS

Less valuable than the geographic names are some bilingual inscriptions which give us values for a few more signs.

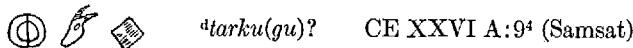
1. TARKONDEMOS BOSS

Our oldest bilingual inscription in hieroglyphic and cuneiform writing is the so-called Tarkondemos boss, which from the time of its discovery has been one of the greatest *cruces* in the decipherment of the Hittite inscriptions. In spite of the fact that it has been rejected by recent decipherers as without value for the understanding of the hieroglyphs, I believe that its hieroglyphic and cuneiform parts agree with each other and with other comparable Hittite inscriptions.

I accept the cuneiform reading *"tar-qu-u-tim-me šar māt ^{ali}me-ra."*¹ This accords well with the hieroglyphs



The first sign is the goat's head elsewhere used for *sá*, but here read as an ideogram, *tarku*. This reading may be supported by Greek *τράγος* and Assyrian *turâhu*, which I cannot believe are merely coincidences.³ Moreover, the goat's head is followed by *gu* in



The second sign is probably a compound made up of + . From the following comparisons it is clear that both and have values similar to *ti*:

¹ Cf. Hilprecht, *Assyriaca* (1894), pp. 107-36, where some thirteen previous interpretations are listed. Hilprecht himself reads *dim*(?) for our *tim* and decides on *tan* (with *kal* as a possibility) for the final sign. This last, however, usually read *e*, it seems necessary to emend with Albright (AOF, IV [1927], 137-38) to *ra* to complete the equivalence of the two scripts (see below).

² For a reproduction of this boss see Sayce in *Transactions of the Society of Biblical Archaeology*, VII (1880-82), pl. opp. p. 298 and also last plate in the volume.

³ The Greek word has no satisfactory etymology in any of the Indo-European languages, nor has the Assyrian in any language of the Semitic group. On the latter cf. P. Jensen, *Hittiter und Armenier* (1898), p. 153.

⁴ Cf. the writing of the god Tarku's name with another ideogram on p. 28.

	<i>X-pi-ti</i>	Assur e Ru 1 (Assur)
	<i>X-pi-te-e</i>	A 15b**;2 (Carchemish)
	<i>XX-yu+ri-pi-te</i>	A 6:4 "
	<i>X-te-e-si</i>	M I (Babylon)
	<i>X-te-i-wa-wi</i>	A 2:5 (Carchemish)
	<i>X-te -wa-e</i>	M II:6 (Babylon)
	<i>X-tu -pa-a</i>	A 6:4 (Carchemish)
	^{ma} <i>a-si-ti-i-te-ma-wa-sa</i>	A 11b:1 "
	^{ma} <i>a-si-ti-i-tu-ma-wa-sa-a</i>	A 11a:1 "

The , as seen above, is occasionally followed by *i*; but in two of our examples it has a phonetic complement *e* which indicates that its real value is *te*. For the sign , which is never followed by *i*, we may assume the value *tu*.

The third sign on the Tarkondemos boss is *me* plus the *ri* tang. That the fourth sign is *e* is shown by occurrence of several similar *e*'s in II M XLIX (Emir Ghazi).

The fifth sign, representing twin peaks, is the ideogram for "country" or "land." In cuneiform also land and mountains are associated, for one sign means both *šadû*, "mountain," and *mátu*, "country."

The sixth sign, the royal tiara, is the ideogram for "king."

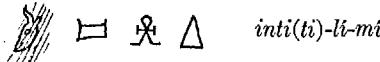
In their respective grammatical orders, then, the two versions of our inscription yield exactly the same statement: "Tarkondemos, king of the country of Mera."¹

¹ In the cuneiform the "city" determinative precedes Mera. As to this land cf. Albright, *loc. cit.* He prefers to identify it with Mi-ra-a of the Boghaz Köi tablets, the location of which is uncertain. Friedrich, "Zu den kleinasiatischen Personennamen mit dem Element *muwa*," KAF, I (1930), 359-78, mentions on his p. 367 variant cuneiform writings of that regional name as Me-ra-a and Mi-c-ra-a.

Albright and Friedrich would read the king's name as Tar-qu-mu-wa, which the Hittite hieroglyphic signs show to be impossible.

2. INDILIMMA SEAL

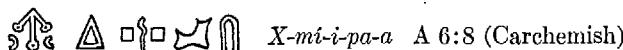
The second bilingual¹ is not as useful as was the first. Its cuneiform legend reads *in²-di-lim-ma mār EŠ-ir-da-mu warad ^diš-ḥa-ra*; the hieroglyphic is



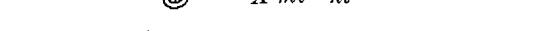
The first sign is not clear.³ Since we do not have closed syllables in our writing, it cannot be *in*. On the basis of the cuneiform, I suggest the ideographic value *inti*, with the second sign, *ti*, as its phonetic complement.

The third sign should stand for *li*. Since we shall soon meet another *li* sign, however, we may call this one *li*. In the Carchemish inscriptions this sign is clearly distinguished from *la*. But in the Assur inscriptions *li* does not occur; it may there have been confused with *la* (p. 38)⁴ or may even be merely a secondary development from *la*.

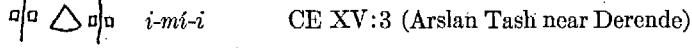
The fourth sign should contain *m*. That its vowel is *i* is indicated by



X-*mi-i-pa-a* A 6:8 (Carchemish)



X-*mi* -*ni* " "



i-mi-i CE XV:3 (Arslan Tash near Derende)



i-mi II M XXXIII A:4 (Bor)

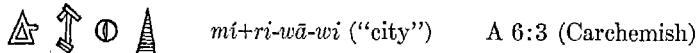
¹ The copy in M XLV:8 should be corrected on the basis of the impression reproduced by Hogarth, *Hittite Seals* (1920), No. 181.

² The cuneiform sign *in* may possibly be divided to read *še-ir* instead. If so, correspondence with the hieroglyphic legend might be obtained by reading the first sign of the latter not as the oxhead but as the goat-head *sá* plus the tang *ri*.

³ There may be a forward-slanting downward projection (tongue or beard?) not shown in our drawing. If we should read the sign as *sá*, then the projection could be the *ri* tang.

⁴ A late name Indlamma in the Xanthos inscription mentioned by Messerschmidt, MVAG, III (1898), 220, suggests that the name on our seal too might possibly be read with *la* instead of *li*.

Compare too the geographic name



Since this occurs last in a group, we may safely assume that the third sign is the enclitic "and" (cf. p. 62). The second sign is the genitive ending. The whole of the geographic name, therefore, is contained in the first sign with its tang. The name Miri thus obtained may well be identical with the Meri (cuneiform Mera and Mira) we have just found on the Tarkondemos boss.

The third and fourth signs of the Indilimma seal occur frequently alone,¹ possibly as the name of a deity. The first part of the name Indilimma occurs in common personal names of Asia Minor such as *Iνδας*, *Iνδης*, *Iνδος*, and *Iνδονος*.²

3. ŠUPPILULIUMA SEAL

In the photographic copy of this seal published recently by Weidner³ only one sign is clear. His hand copy renders traces of three signs, but shows room for a fourth also. The signs Weidner gives are



Their order of reading is uncertain. The one we have put first may be the ideogram for Suppu, probably a god's name,⁴ changed later to Sapa.⁵ Our third sign may have the value *li*, since it is once followed by an *i* (p. 46).

4. ARNUWANTAS SEAL

This seal also was published by Weidner.⁶ It has even less value than the Šuppiluliuma seal, since the hieroglyphic part of the inscription is almost entirely lost. From the aedicula we can see only that it must have contained a royal name.

¹ Cf., e.g., M XLI:2; M XLIII:1(?), 2, 4, and 6.

² Sundwall, p. 82.

³ "Das Siegel des Hethiter-Königs Šuppiluliuma," AOF, IV (1927), 135-37.

⁴ ^aŠubbu in Deimel, *Pantheon Babylonicum*, No. 3181.

⁵ Cf. the king Sapalulme of Hattina in Luckenbill, I, §§ 599 and 600, and the Philistine name Saph in II Sam. 21:18.

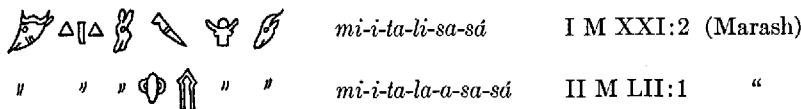
⁶ *Loc. cit.*

From the bilingual inscriptions we have obtained the following syllabic values:

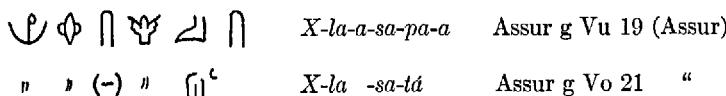


READINGS BASED ON OTHER CONSIDERATIONS

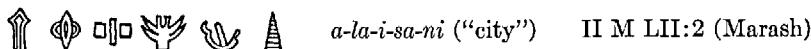
In one very important name from the Gurgum inscriptions the sign *li* found on the Šuppiluliuma seal interchanges in



with \emptyset , which there has the phonetic complement *a*. The value *la* thus obtained is corroborated by



Further proof for *la* may come from the name



Dropping the accusative ending, we may read *Alaisa* and compare *Alaia* situated in the Shubari country.¹

In the personal name from Gurgum given above, *mi* and *li* may stand for cuneiform *mu* and *lu* (cf. pp. 20 and 75-76). The name then suggests that known as Mutallu in the Assyrian annals, and it becomes reasonable to assign the value *ta* to the third sign. The Mutallu of the Assyrian records was, like ours, a king of Gurgum.² The various Mutallu's are, however, not identical, since the one known from Assyrian sources was the son of Tarhulara,³ whereas the hieroglyphic inscriptions from Marash give the following genealogies:

¹ Luckenbill, I, § 143.

² Other men of the same name are mentioned in a Carchemish inscription, A 1a:4, and in Assur b Ro 4.

³ Luckenbill, II, §§ 29 and 61.

		ⁿ halpi(pi)-hi-pa-a-ā-si
son of		I M XXI:1 ⁿ ki+wā-ma-sa-a-si
grandson of		I M XXI:1 ⁿ halpi(pi)-hi-pa-ā-sa-sá
great-grandson of		I M XXI:1 mi-i-ta-li-sa-sá
.... of		I M XXI:2 ⁿ halpi(pi)-he-pa-ā-sa-sá
.... of		I M XXI:2 ⁿ mi-i-wa-sa
.... of		I M XXI:3 ⁿ ki+wā-ma-sa-su
		I M XXI:3

and

son of		ⁿ halpi(pi)-he-pa-a-ā-si II M LII:1 (cf. 3)
		mi-i-ta-la-a-sa-sá II M LII:1 (cf. 4)
grandson of		ⁿ mi-i-wa-sa II M LII:4 (cf. 1)

That the value of the sign represented by the donkey's head is *ta* is confirmed by the fact that it occurs regularly with the vowel *a*. Compare

	<i>a-wa-a-si-ta-a</i>
	A 1a:5 (Carchemish)
	"son"-na-mi-i-ta-a-si
	AAA, II, Pl. XXXVIII:1 (Tell Ahmar)
	<i>ta-a-ma-si</i>
	A 1a:1 (Carchemish)
	<i>ta-a-ma-na-pa-wi</i> ("city")
	A 15b**;4 "

Since the last example is the last of a group of names, its ending *wi* is the enclitic "and." Now *-pa* is the genitive ending (p. 54), and *-na* is the abbreviation of the geographic ending *-ina*. The name of the city, therefore, is *ta-a-ma*, which may be compared to *Thema*, pronounced also *Thama*,¹ in Syria. As found here with the geographic ending *-na* in the form *Tamana*, this name is in splendid agreement with the

¹ Dussaud, p. 286.

Assyrian name Teman.¹ Still another name which corroborates our reading of *ta* is



^au-ta-ma-ni-ā A 1a:6 (Carchemish)

Here the *u* or *wi* obviously stands for an initial *r* which could not be written in the hieroglyphic. The name occurs in the Tell el-Amarna letters as ^amar-ta-ma-an-ya.² Both writings represent Indo-European *rta-manya*.³

Having established the value of the sign *ta*, we can now find the value of the sign  with which it interchanges in



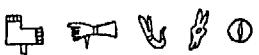
^a(“sun”) *tarku-tá-wā-si*

A 11b:2 (Carchemish)



^a(“sun”) *tarku-ta-wā-si*

A 11c:5 “



X-tá-ni-ta-wi

A 12:3 “



X-[....]-tá-ni-tá-e I M XXI:4 (Marash)



X-ta-ni-tá-wi

A 11b:4 (Carchemish)

That  is the cursive form of  is shown in



^a*pá-tá-ná-ā* A 11a:3 (Carchemish)



^a*pá-tá-na-sá* A 6:1 “

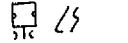


^a*a+rx-wā-tá* A 11a:3 “



^a*a+rx-wā-tá* I M XXI:4 (Marash)

Similarly we see that  is the cursive form of *ta* by comparing



X-ta A 4a:3 (Carchemish)



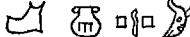
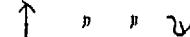
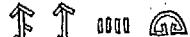
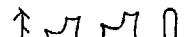
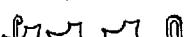
X-i-ta A 4b:6 “

¹ Luckenbill, I, §§ 363 etc.

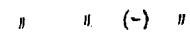
² Knudtzon, No. 201:3 f.

³ Cf. J. Friedrich, “Arier in Syrien und Mesopotamien,” in *Reallexikon der Assyriologie*, I, 144-48. He translates the phrase as “nach dem heiligen Gesetz strebend.”

To return to the ending  found with *ta-a-ma* (p. 39), by observing the divine names (especially Tarku) we see that the signs  *wā* and  *wa* used for the genitive ending interchange with it initially and medially also in

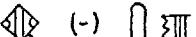
	<i>pa-pi-i-mi</i>	A 15b* (Carchemish)
	<i>wa-pi-i-ni</i>	Assur e Ro 17 (Assur)
	<i>wā+ri-wā-me-si</i>	A 7j (Carchemish)
	<i>wā+ri-pa-pa-a</i>	CE V:2 (Kara Burun)
	<i>wā+ri-rx-wā-me-si</i>	A 12:1 (Carchemish)
	<i>pa+rx-pa-pa-a</i>	A 12:4 "

That  contains the vowel *a* is shown by

	<i>X-pa-a-su</i>	A 6:1 (Carchemish)
	<i>X-pa -su</i>	A 15b* "

That its consonant is *p* is proved by the personal names Gurpas and Pammas and the divine name  Hipas which follow.

The personal name

	<i>gu+ri-pa-a-su</i>	CE IX:1 (Baghche)
	<i>gu+ri-pa -su</i>	II M XLVIII: 3 (Asarjik ¹)
	<i>gu+ri -a-sā</i>	M I:3 (Babylon)

corresponds to Gura², Guraa, and Gurraba known from Assyrian inscriptions.² The omission of *pa* in the third example suggests that the sound of this hieroglyph may have varied as did that of the cuneiform *pi*, which represents the sound of *w* also.

The name Pammas is written

	("sun") <i>pa+me-ma-si</i>	A 4a:2 (Carchemish)
---	----------------------------	---------------------

The first sign contains the division mark, which shows that after it begins a new word—in this case the personal name. Since the sign

¹ Cf. CE, pp. 15 f.

² Tallqvist, p. 82.

representing a foot never takes the tang, the extra stroke on the heel here must be a mistake made by the scribe. This name Pammas or Bammas corresponds exactly to the cuneiform *Ba-am-ma-a*, *Ba-ma-a*, or *Ba-ma-a-a*.¹

If we are correct in identifying the new symbols involved, the name

◎ ◎	↷	↷	↑↑	↷	⁴ hi-pa-ā-a-su	I M XXI:5 (Marash)
,	↷	↷	↷	↷	⁴ he-pa-ā -su	I M XXI:6 "

is that of an important goddess, *Hipa* or *Hepa*, worshiped in the Mitannian as well as in the Hittite world. Since in

↷	◎	↷	◎	↷	⁴ a-si-pa-hi-i-su	A 15b**:3 (Carchemish)
◎	◎	↷	↷	↷	si-hi-i-na-su	II M LIII (Nigdeh)

◎ is followed by *i*, I transliterate it as *hi*. The sign with which it interchanges in the name of the goddess and also in

↷	↷	↷	↷	↷	↷	↷	⁴ alpi(pi)-he-pa-a-ā-si	II M LII:1 (Marash)
,	,	,	◎	,	,	,	⁴ alpi(pi)-hi-pa-a-ā-si	I M XXI:1 "

may then be read as *he*.

Now comes the problem of distinguishing signs with similar forms but different values. The sign which I call *he* probably represents a tree or shrub and must not be confused with any of the five signs representing various positions of the hand. After long and careful study of the hand pictures I would group them as follows:

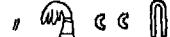
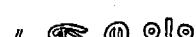
	Carchemish	Assur
1.	↷	↷
2.	↷	↷
3.	↷	↷
4.	↷	↷
5.	↷	↷

¹ Tallqvist, p. 51.

The signs in the first column are taken from the Carchemish inscriptions; those in the second column are cursive forms from the Assur lead strips.

The correspondence of the signs in line 1 is self-evident.¹

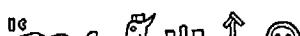
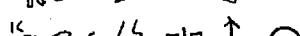
The signs in line 2, with the fingers directed downward, interchange with the *ni* sign of line 1, in which the fingers are directed upward, in

	<i>X-ni-na</i>	A 11a:2 (Carchemish)
	<i>X-ne-na-na-a</i>	A 11c:5 "
	<i>i-ma-ni</i>	A 11b:3 "
	<i>i-ma-ne</i>	A 11b:4 "
	<i>ta-ni-wā</i>	CE IX:2 (Baghche)
	<i>ta-ne-wi-i</i>	M V:3 (Hamath)



	<i>a-wa-a-ne</i>	M VII 2:2 (Kirch Oghlu)
	<i>a-wa-a-ne</i>	M III b:3 (Hamath)
	<i>ne-na-la-ni</i> ²	CE X:2 (Baghche)
	<i>ne-na-la-ni</i>	CE X:3 "



	<i>X-na-ni</i>	A 15b**:4 (Carchemish)
	<i>X-na-ni</i>	Assur e Ru 22 (Assur)
	<i>X³-na-mi-i-wā-si</i>	A 2:1 (Carchemish)
	<i>X-na-mi-i-wā-si</i>	II M XXXI (Agrak)

¹ The nature of this sign is particularly clear in A 6:5.

² Actually written in the order *la-ne-na-ni*.

³ In this exceptional variant the thumb is above instead of below the fingers.

and its cursive forms and are called *ne* for the reason given on page 19.

That the hand forms in line 3 are identical in origin appears from

		Ⓐ	Ⓐ	X-ā+ri-wi-a	A 15b**:3 (Carchemish)
		Ⓐ	Ⓐ	X-ā -pa-ni-ā	Assur e Ru 10 (Assur)

As this sign is known initially only, its value is probably ideographic rather than phonetic.

The identity of the two forms in line 4 is shown by

		Ⓐ	né-ta-wi	II M XXXIII:3 (Bor)
		Ⓐ	né-ta	Assur e Ro 30 (Assur)

This sign is equal to the usual *ne* in

		Ⓐ	X-né+me-wi	A 6:4 (Carchemish)
〃		Ⓐ	X-ne-me-wi	A 11a:5 "

The two forms in line 5 interchange in

		Ⓐ	nu-ā-tā	A 3:1 (Carchemish)
		Ⓐ	nu-a-tā	CE XII:2 (Bulghar Maden)

Since this sign interchanges with *ni* in

		Ⓐ	gu-ma-nu	CE V:2 and 3 (Kara Burun)
〃		Ⓐ	gu-ma-ni	A 2:1 (Carchemish)

it also contains an *n*. The fact that it is followed by an ommissible *wi* or *u* sign in *pa-nu-wi-i-a* (p. 29) indicates that its value is *nu*.

After establishing the values of the hand signs, we still have a few unidentified signs. To judge from

				ka-ma-ná-si	M XI:3 (Carchemish)
〃	〃	〃		ki-ma-ná-sá	M XI:4 "

◀ must have a value similar to the *ka*-sign with which it interchanges. It is often associated with *i*, for example in

◀	◀	օ	e-ki-i	Assur g Ro 24 (Assur)
օ	◀	◀	i+ri-pi-ki-i-si	II M XXXIII:1 (Bor)

The value *ki* which I would assign to it is confirmed by the following personal names:

◀	↑	◀	◀	ki-wā-a-ma-si	
◀	↑	◀	◀	M XXV:1	(Marash)
◀	↑	◀	◀	ki+wā-ma-sa-a-si	"
◀	↑	◀	◀	I M XXI:1	"
◀	↑	◀	◀	ki+wā-ma-sa-su	I M XXI:2 and 3
◀	↑	◀	◀	"	"
◀	◀	◀	◀	"ki>i-ki-si	M II:1
◀	◀	◀	◀		(Babylon)

The name Kiwamas or Giwamas corresponds to that of Gi-am-mu, prefect of the cities on the river Balikh.¹ The second name, containing two *ki* signs, is probably to be read Kikia or Kiakki.² To each *ki* is attached something akin to a tang, but not in the position to which we are accustomed. These additions may represent weak consonants of some sort; but our Assyrian parallel, if correct, would indicate that they were not pronounced.

The new sign in the second name is evidently the cursive form of , which may be related to another picture of a human head, . The latter represents a sound found initially only, if we may judge by such groups as

◀	◀	◀	◀	X-a-pi-ma-pa-a	
◀	◀	◀	◀	A 6:1 (Carchemish)	
◀	◀	◀	◀	X-a-pi-wa-a-pa-[. . .]	
◀	◀	◀	◀	M XXIV A (Marash)	
◀	◀	◀	◀		
◀	◀	◀	◀	wā+ri-wā-me-si	
◀	◀	◀	◀	A 7j (Carchemish)	
◀	◀	◀	◀	pa+rx-wā-me-si	
◀	◀	◀	◀	A 12:1	"

¹ Tallqvist, p. 79.

² Tallqvist, p. 114.

Its interchanges with *a* and *wa* show that its vowel is *a*. Together with its position in the foregoing examples they suggest that its consonant is the smooth breathing. If our value $\text{̄}a$ is correct for this sign and if  (representing the human head with tongue protruding)¹ really is related to it, then  may possibly be $\text{̄}i$. It is a very rare sign, however, and I am very doubtful about it.

We come now to a group of signs which have to be considered together on account of their common origin and interdependence. That  and  have similar values is proved by

              	<i>X-li-i-ā-ye-i-wi</i>	II M LII:4 (Marash)
              	<i>X-li-ā-ye-i-wi</i>	II M LII:5 "
              	<i>X-a-sā-ye-i-wi</i>	II M LII:2 "
              	<i>X-a-sā-ye-i-wi</i>	A 6:4 (Carchemish)
              	<i>X-a-sā-yi-i-wi</i>	I M XXI:4 (Marash)

The following particles show that  contains *i*:

              	<i>yi-i-wi</i>	II M LII:5 (Marash)
              	<i>yi -wi</i>	A 15b**;3 (Carchemish)
              	<i>yi-i-tā</i>	I M XXI:4 (Marash)
              	<i>yi -ta</i>	A 15b**;4 (Carchemish)

That it is to be read *yi* is suggested by

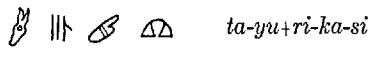
              	<i>X²-ri-i-i-a+ri-tā-pa</i>	Assur e Vu 23 (Assur)
              	<i>X²-ri-yi-a</i>	Assur e Ro 2 "

¹ Even the sign we call $\text{̄}a$ often shows a protruding tongue, e.g., A 3:3 and 4.

² The initial sign, though in the form of the division mark, is clearly an ideogram, for in both cases it is itself preceded by a division mark of normal, smaller size. Cf. the same usage in Assur f Ro 34 (p. 8).

Since *yi* interchanges with 𒌵, as seen above, I transliterate the latter as *ye*.

Now in form 𒌵 𒌵 𒌵 seems to have developed from 𒌵, and the latter in turn from 𒌵. If 𒌵 is related to the other two phonetically as well as formally, then it too contains a *y*. By transliterating it as *yu* in

 *ta-yu+ri-ka-si* Assur f Ru 3 (Assur) and
CE XII:4 (Bulghar Maden)

we find a word *tayurkas* which is evidently the same as the Hittite cuneiform *tayugas*.¹ Though the *yu* sign, unless used ideographically, regularly carries the tang, the latter was probably unpronounced in many cases and served only to show some special characteristic of the sound.

It is strange that the same group of signs, of one, three, and nine strokes, exists in the Rās Shamra inscriptions, which are written in cuneiform in two different languages, Phoenician and some autochthonous language of Syria. Is it possible that the latter corresponds to the language of our Hittite hieroglyphic inscriptions?

The value of another sign can be obtained from the personal name

 *mi+ri-ha-li-ni-si* M III B:1 (Hamath)

The first sign is equivalent to the bull's head *mi* plus the tang.² The second sign contains the vowel *a*, as shown by its use in

 *mi-ha-a-si* A 14a:1 (Carchemish)
 *mi-ha -sa* A 14b:2 "

If the name from Hamath and vicinity corresponds to that of its king called Irhuleni in the Assyrian annals, then the second sign is presumably *ha*. The original name Mirhalinis could have been

¹ Written *ta-a-i-ú-ga-dš*, *ta-a-ú-ga-dš*, *da-a-i-ú-ga-áš*, and *da-a-i-ga-dš*, with the meaning "two-year-old (animal)." See Hrozný, "Die Sprache der Hethiter," BKS, I (1917), 93.

² This same sign, in the same royal name, appears again in the Restan inscription published by Ronzevalle in 1908. Its identity is proved by use there of the same form, but without the tang, in the writing of the word for "son." Restan is only seventeen miles or so from Hamath.

changed through *Wirḥalini and *Irḥalini to its Assyrian form Irḥu-leni.¹ This same sign appears in another personal name

 *ha-ni-sa-a-si* AAA, II, Pl. XXXVIII:1 (Tell Ahmar)

with which I would compare the names Ha-a-ni, Ha-an-i, Ha-ni-i, Ha-an-ni-i, and Ha-nu.²

By comparison of

 ("sun") *pa+me-ma-si* A 4a:2 (Carchemish)

(-)  *pa+me-ma-pa* A 6:1 "

we see that  may be equivalent to *pa*. The new sign, *pá*, occurs again in a geographic name from Carchemish,

 *pá+ri-ka-i-na-ni* ("city") A 1a:1

This latter name, Parka or Barga, if our reading is correct, may be identified with a city near Haleb³ and closely connected with Carchemish.⁴

From the following divine name we see that  is the cursive form of :

 ^d*gu-pá-pi-pi-si-wi* A 11b:4 (Carchemish)
 " "  " " " " ^d*gu-pá-pi-pi-si-wi* A 4a:3 "

This name, Gupappis or Kupappis, evidently represents the goddess Kupapaš or Gubaba of Asia Minor. Her name is frequent in the hieroglyphic inscriptions; in those from Carchemish she belongs to the great triad of the gods. She is the same as *Kυβέλη* or *Kυβήβη*, who was later worshiped by the Lydians and the Phrygians as the great mother-goddess.⁵

¹ Luckenbill, I, §§ 563 etc.

² Tallqvist, pp. 85 f.

³ Luckenbill, I, §§ 614 etc.

⁴ Hrozný, "Muršiliš II als Schiedsrichter zwischen den Ländern Barga und Kargamiš," BKS, III (1919), 130 ff.

⁵ On the whole subject see Albright, "The Anatolian Goddess Kubaba," AOF, V (1929), 229 ff.

Since  has as its cursive form , the bird with extended wing  evidently corresponds to the cursive form . The value of this last sign is shown by

			<i>>a-pi-pā</i>	II M LII:5 (Marash)
"	"		<i>>a-pi-pa</i>	Assur f Ro 5 (Assur)

A bird-headed figure, , occurs in a name, found at Carchemish only,

				<i>>a-pā-a+ri-a-si</i>	A 6:1
"	"	(-)	"	<i>>a-pā-a+ri -si</i>	A 7b:1
"		(-)		<i>>a-pā-a+ri -su</i>	A 15b**:1

where it interchanges with . Can the latter be an abbreviated style of the former, rather than the *e+ri* which it resembles? We may call these signs *pā* and *pā* respectively. The personal name Aparias or Aparis in which they occur suggests that of the city of Apparazu captured by Shalmaneser III on a return march from Syria.¹

Our *pā* interchanges with *pā* in

					<i>XX-i-pā-ma-a</i>	Assur e Ro 10 (Assur)
"	"	(-)		"	<i>XX-i-pā-ma-e</i>	Assur g Ru 9 " 2

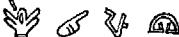
and with the common *pa* sign in

					<i>X-mu+ri-pā-wā</i>	Assur e Ru 4 (Assur)
"	"				<i>X-mu+ri-pa-wa-i</i>	Assur e Ru 24 "

¹ Luckenbill, I, § 655. Or, since *p* interchanges with *w* and *w* with *m*, we may perhaps compare the name ^m*A-ma-ya-še* found in Knudtzon, p. 1557. In that case our *ri* tang should be read with its *y* value.

² Again, but without *-e*, in Assur a Ru 7.

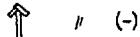
It occurs also in a personal name

 *sa-ka-pa-si* A 7h (Carchemish)

which may be compared to the Semitic name Sagab.¹

The intimate relations between the sounds *p* and *w* are brought out once more (cf. pp. 28-29) by the interchange of  *pā* with *wa* and *wā* in

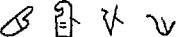
 *pā-ki-e* A 6:6 (Carchemish)

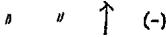
 *wa-ki* A 6:5 "

 *i-pā* A 6:8 "

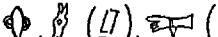
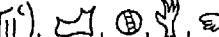
 *i-wā* Assur g Ro 5 (Assur)

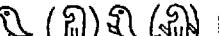
and of *pā* with *wa* in

 *ka-pā-pā-ni* Assur g Ro 7 (Assur)

 *ka-pā-wa* Assur f Ru 28 "

In addition to readings based on geographic names and bilingual inscriptions, the following signs have now been evaluated:

 *la*,  *ta*,  *pa*,  *bi*,  *he*,  *ne*, *nu*

 *ki*,  *ia*,  *ye*,  *yi*,  *yu*, *ha*, *pā*, *pā*, *pā*

UNREAD SIGNS

There are a few other rare phonetic signs which remain unreadable for the present.

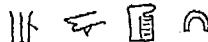
¹ Tallqvist, p. 189; cf. British Museum, *Carchemish*, II, 135.

² The *pā* here carries what might be a tang (so read by us in "Parka," p. 48), but is possibly intended for the bird's tail. The rare sign *pā* has the "tail" in all the examples known.

³ The *hieroglyphic* form of *ne* was proved on p. 19; only its *cursive* form properly belongs in the present list.

⁴ Though these last four signs are evidently related in value, the very abundance of *pā*'s (five altogether) suggests more uncertainties here than appear on the surface.

In the royal name or names

 *yu+ri-tá-x-si* CE I, same as Meyer, Fig. 19

 *yu+ri-tá-x-si* Meyer, Fig. 22

found four times in the first form and once in the second,¹ all five occurring in the vicinity of Kara Dagh or Mahalich near Konya, the third sign in each occurrence is apparently phonetic. These two new signs may or may not be mere variants. One suggestion that they are really different comes from

 "god"-*ná-wi*² CE I (Kara Dagh)

 "god"-*ná-x* " "

where our  interchanges with *wi*. Here the latter is apparently the enclitic "and," since it occurs at the end of the second term in a group of two. As  appears at the end of a similar group of three terms, it may be a variant of *wi* in value, perhaps *we*. This would make at least the second royal name above read approximately *Yurtawes*, which suggests the Carian masculine names *Oρθωσιος* and *Αρνασσιος*, perhaps compounded from the elements *urta(erta)* and *waza*.³ The first element of the first name is evidently the same; but the second remains wholly uncertain, since its writing with  is taken from the same inscription in which we have just found "god"-*ná* followed by .

Another rare sign might be read if the comparison

 ²*a-x-wā-me-a-su* A 7j:2 (Carchemish)

 ²*a+rx-wā-me-a-si* A 11b:1 " "

is justified.  appears to be equivalent to the curved tang (cf. p. 14) and hence to have the value *rx*. With the ideogrammatic tang it stands for "prince" (cf. p. 10). In the divine name

 ²*x+ri-gu* A 11b:6 (Carchemish)

¹ Meyer, Figs. 19-23.

² On this word for "gods" see p. 54, n. 2.

³ Sundwall, pp. 235 and 76.

it may be either phonetic, as suggested by my transliteration, or ideo-grammatic with a value ending in *gu*.

Another sign might be identified if we could find a divine name corresponding to

 ⁴*x+ri-ma* A 15b**:2 (Carchemish)

The  occurs again in

 *X-x+ri-li-wi* A 12:4 (Carchemish)

When deprived of its tang, it somewhat resembles  and ; but these are perhaps variants of  instead in

			<i>wi-x-ni</i>	M XI:5 (Carchemish)
			<i>wi+ri-wi+ri-ni</i>	II M XLVIII:1 (Asarjik)
				<i>wa-ma-wā-wi-i-la</i>
				A 6:2 (Carchemish)
				<i>wa-ma-wā-x-i-me</i>
				A 1a:4 "

That  and , which may be merely variant forms of a single sign, have phonetic rather than ideographic value appears from the groupings

		<i>pi-x</i>	A 4b:2 (Carchemish)
		<i>ti-x</i>	A 17b:2 "
		<i>i-mi-x</i>	CE XII:2 (Bulghar Maden)

where the signs *pi* and *ti*, which are never used ideographically, precede them.

The position of  in such cases as

				<i>X-x-x-ta</i>	A 6:4 (Carchemish)
				<i>X-x-pi-si</i>	Assur f Vu 25 (Assur)

implies a phonetic value.

Altogether we have read twenty-four signs from geographic names known in cuneiform also, five more from bilingual inscriptions, and nineteen from other sources. Two signs (I, P) were explained in our discussion of tangs (pp. 12-15). With the six signs the readings of which are still to be determined, this makes a total of fifty-six phonetic signs used in the Hittite hieroglyphic inscriptions. There is a difference of two between this and the Cypriote syllabary, which contains fifty-four.

Out of the fifty-six signs used in the Carchemish inscriptions there are six which do not appear at Assur:



The first four are replaced by ☩, ☪, ☫, ☬; the last two merely happen to be lacking because of their rarity. One sign which appears at Assur, ☩, is not known at Carchemish. Its form suggests that it may correspond to ☩ ☩ ☩ ☩.

II

THE LANGUAGE

GRAMMATICAL FORMS

NOUNS

From variant endings of nouns and proper names which are otherwise identical, it would seem that our language has the following case endings:

—	—	—	—	—	some number <i>X-e-hi-pa-su</i>
—	—	—	—	↑	Assur g Vo 3 (Assur)
—	—	—	—	—	<i>X-e-hi-pa-wa</i>
—	—	—	—	—	Assur a Ru 2 "
—	—	—	—	—	some number <i>X-e-hi-pa-ni</i>
—	—	—	—	—	Assur g Vo 12 "

The nominative ending *-s* is proved by names on seals and by those appearing immediately after "I" at the beginnings of inscriptions. The vowel following it varies, but is probably unpronounced, since we never find it accompanied by a phonetic complement.¹ Compare

	<i>ka-ti-i-si</i>	A 2:1 (Carchemish)
	<i>ka-ma-na-a-su</i>	A 7a:1 "
	<i>ki-ma-ná-sá</i>	M XI:4 "

The genitive ending is probably *-wa* or *-wā*, interchanging with *-pa*.² It appears often near the beginnings of inscriptions in a phrase which may mean "favorite of the gods,"³

		<i>"god" ná-pa</i>	<i>wa+rx-wā-me-si</i>
			A 12:1 (Carchemish)

¹ Except possibly in forms such as *ná-si-ti-i-tu-ma-wā-sa-a* (p. 35), where *-sa-a* may be the nominative ending after the genitive *-wā*.

² On a variant, *-sa*, see p. 72.

³ The groups of signs containing the word for "god" cited here and in the passages on p. 51 might also be read "god"(*na*) or "god"(*ná*), in which case the *na* or *ná* would be a phonetic complement giving us the end of the unknown word for "god."

Other forms of this ending occur in

Ⓐ Ⓛ Ⓝ	"god"-na-pa	M IX:1 (Carchemish)
〃 〃 〃 Ⓛ	"god"-na-pa-a	A 11b:1 "
〃 〃 Ⓛ	"god"-na-wā	A 4d "
〃 〃 Ⓛ	"god"-na-wa	A 6:2 "
〃 〃 〃 Ⓛ	"god"-na-wa-a	I M XXI:4 (Marash)

The accusative ending is *-n*, as in

Ⓐ Ⓛ Ⓝ Ⓞ Ⓟ	^d gu-pá-pi-ni	M IX:4 (Carchemish)
-----------	--------------------------	---------------------

As in the nominative case, the vowel is probably silent.

In another occurrence of this same divine name we find a fourth case ending, which may possibly be the dative (cf. p. 72):

Ⓐ Ⓛ Ⓝ Ⓞ Ⓟ Ⓛ	^d gu-pá-pi-ā	A 18j (Carchemish)
-------------	-------------------------	--------------------

Another possible case ending is *-tā*, seen with two examples of the infix *-ki-* on page 63 and perhaps in

Ⓐ Ⓛ Ⓝ	X-tā	A 12:3 (Carchemish)
-------	------	---------------------

〃 Ⓛ	X-tā	CE V:3 (Kara Burun) ¹
-----	------	----------------------------------

The *-ta* with the word for "ax" on page 65 may be the same. May we compare it with the old cuneiform Hittite instrumental ending *-ta*?²

We have examples of the formation of the plural in

Ⓐ Ⓛ Ⓝ Ⓞ Ⓟ Ⓛ Ⓛ	^p ta-yu+ri-ka-si-na-si	Assur f Ru 3 (Assur)
Ⓐ Ⓛ Ⓛ Ⓛ Ⓛ Ⓛ Ⓛ	ta-yu+ri-ka-si-na-ā	CE XII:4 (Bulghar Maden)
Ⓐ Ⓛ Ⓛ Ⓛ Ⓛ Ⓛ Ⓛ	^p ta-yurkas-ni-wa	
Ⓐ Ⓛ Ⓛ Ⓛ Ⓛ Ⓛ Ⓛ	Assur f Ro 31 (Assur)	

¹ The same word occurs with the nominative ending *-si* in A 3:4 and with the accusative *-ni* in A 11a:2.

² Cf. Hans Ehelolf in *Indogermanische Forschungen*, XLIII (1926), 316-17.

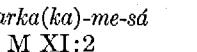
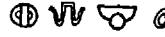
The singular of this word is *tayurkas* or *tayukas*.¹ Hence if the three dots in triangular arrangement twice preceding the first sign constitute a plural determinative, the plural ending would be contained in *-na*² or *-ni*; the suffixes are case endings.

Three dots in a row following the sign to which they apply in

 A 11b:6 (Carchemish)

may likewise indicate the plural. The various animals whose heads are pictured, evidently to be taken ideographically, will have constituted offerings to the gods who are named along with them.

It is characteristic of ancient Caucasian or Asianic languages that, besides its own ending, a governed noun may add the ending of its governing noun. This seems true in Hittite also; compare

	<i>karka(ka)-me-sá</i>
	M XI:2 (Carchemish)
	<i>karka(ka)-me-sa-wā-si</i> ("land")
	A 2:1 "
	<i>karka(ka)-me-sa-wā-ni</i> ("city")
	M IX:4 "
 	^d <i>tarku(ku)-si</i>
	AAA, II, Pl. XXXVIII:2 (Tell Ahmar)
	^d <i>tarku(ku)-wā-si</i>
	A 6:2 (Carchemish)
	^d <i>tarku(ku)-wā-ni</i>
	II M XXXIII A:3 (Bor)

PRONOUNS

PERSONAL

The form  *i-me-a* with its variants, standing usually at the beginning of an inscription, is evidently the 1st person singular, "I." No other personal pronouns have been identified.

¹ Hrozný, "Die Sprache der Hethiter," BKS, I (1917), 93.

² Can this be the same as the Lycian plural ending *-na*, found also in Hurrian? Cf. Bork, *Skizze des Lükischen* (1920), p. 29, and E. Forrer in ZDMG, N.F. I (1922), 226.

POSSESSIVE

The forms of these pronouns, inflected like nouns, are:

Singular	Plural
1ST PER. -meas	1ST PER. -nas and -nis
2D PER. -tas	2D PER. ?
3D PER. -sas ¹	3D PER. ?

Examples are:

1st Per. Sing.

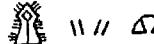
 me-a-si A 6:1 (Carchemish)

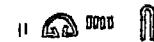
 me-ā-wā A 2:3 "

 me-ā-pa A 11b:4 "

 me-ā II M LII:5 (Marash)

 me-ā-ni A 11b:2 (Carchemish)

 X-me-si II M XXXI (Agrak)

 X-si-me-a A 11c:6 (Carchemish)

2d Per. Sing.

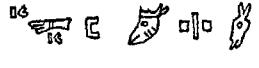
 ta-sā A 6:8 (Carchemish)

 ta-wā A 11a:7 "

 ta-pa-a M II:4 (Babylon)

 ta A 7a:3 (Carchemish)

 ta-ni A 14a:3 "

 "son"-na-mi-i-ta-a-si
AAA, II, Pl. XXXVIII:1 (Tell Ahmar)

 X-li-ā-ta-wā-wi A 2:2 (Carchemish)

¹ This possessive suffix, in the form -sis, -ses, is used regularly in Luvian. Cf. Forrer, "Die Inschriften und Sprachen des Hatti-Reiches," ZMDG, N.F. I (1922), 218 ff. The possessive suffix cannot always be distinguished from the genitive -sas mentioned on p. 72.

3d Per. Sing.

	"tower" (la) ¹ -sa-a-na-wa	A 11c:6 (Carchemish)
	"god"-ná-sa-a-ni	A 1a:4

1st Per. Pl.

	na-su	CE XII:4 (Bulghar Maden)
	ná-wa	A 11b:4 (Carchemish)
	ná-pa-a	M II:6 (Babylon)
	ná-ni	A 12:2 (Carchemish)

	X-ka-ti-ni-si	A 6:5 (Carchemish)
	X-ka-ti-na-wa	" "

	X -u+ri-sá-tá-na-wa	A 11a:5	"
	X(rx)-u+ri-sá-tá-ni-wá	A 11c:6	"

DEMONSTRATIVE

A common demonstrative is wā-si, "this."² It is sometimes strengthened by the particle pi-i, "here." In a list of kings of Carchemish in A 7 the following forms of this pronoun appear:

wā-si-i-e, wā-pi-i-e, wā-si-pi-i-e, wā-si-pi-i, wā-si-i, wā-si-e-i

¹ That *la* is a phonetic complement is shown by "tower" (la)-*ni* in A 11a:4.

² Cf. Lydian *ess*, "this." See Kahle and Sommer, "Die lydisch-aramäische Bilingue," KAF, I (1930), 24, n. 2.

VERBS

Various forms from a single root¹ are:

				<i>a-wa-a-ne</i> M VII 2:2 (Kirch Oghlu); I M XV A:3
"	"	"		<i>a-wa-a-ne</i> M I:4 (Babylon); M III B:3 (Aleppo); M IV A:3 and B:2 (Hamath)
"	"	"		<i>a-wa-a-ne</i> AAA, II, Pl. XXXVIII:5 (Tell Ahmar)
"	"	"		<i>a-wa-a-ne</i> II M LIII (Nigdeh)
"	"			<i>a-wa-a-e</i> Assur b Vo 18 (Assur)
"	"	"		<i>a-wa-a-i</i> Assur e Vu 3 " "
"	"			<i>a-wa-a-i-a</i> AAA, II, Pl. XXXVIII:7 (Tell Ahmar)
"	"	"		<i>a-wa-a-pa</i> M XI:5 and A 16a I:2 (Carchemish)
"	"	"		<i>a-wa-a-pa-a</i> CE VII:3 (Tekir Devrent)
"	"			<i>a-wa-a-pa-a</i> CE XII:4 (Bulghar Maden)
"	"			<i>a-wa-a-wi</i> M I:3 (Babylon); II M LII:5 (Marash); M XI:3, A 1a:4, A 6:4, A 11a:5, and A 15b**:2 (Car- chemish)
"	"			<i>a-wa-a-^lna^l-wi</i> M VI:2 (Hamath)
"	"			<i>a-wa-a-wi</i> M XXIII A:2 (Marash)
"	"			<i>a-wa-a-hi</i> A 3:4 (Carchemish)
"	"			<i>a-wa-a-x-sá</i> A 15b* " "
"	"			<i>a-wa-a-tá</i> A 11a:3 " "
"	"			<i>a-wa-a-tá</i> CE V:1 (Kara Burun)
"	"			<i>a-wa-a-ta</i> A 15b**:1 (Carchemish)
"	"			<i>a-wa-a-si-ta-a</i> A 1b:3 and 4 (Carchemish)
"	"	"		<i>a-wa-a-si-ta+ri</i> A 6:5 and A 17b:2 (Carchemish)

¹ The root *a-wa-a* alone appears perhaps in Assur d Vu 9.

That 𐎣ּ is a verb root appears from its endings, which are quite different from those of the noun, and also from its occurrence in a short and easily translated text (cf. p. 67). It evidently means "to make" or "to construct," and may be comparable to the Hittite cuneiform *iya*, which has the same meaning. The third person of the past tense ends in 𐎣ּ *ne*. Nothing definite can be said about the other endings. There are, however, in cuneiform Hittite parallel forms for -*hi*, -*ta*, -*sta*, and -*stari*.

PARTICLES

The frequent use of particles and adverbs is an outstanding feature. The list that follows is very important for studying the language of the Hittite hieroglyphs. However, it contains a few words which I am not yet sure are particles.

	օօ ի-	թ պի-	Օ վի-	Ճ սի-;	Ւ սւ-	Վ վա-	Ճ Ճ
8.	օօ մ թ Վ	թ օօ մ թ Վ				Վ մ թ Վ	
	i - mi - ta - e	pi - i - mi-ta-e				wa - mi - ta - e	
9.	օօ մ թ		Օ օօ մ թ				
	i - mi - ta		vi - i - mi - ta				
10.	օօ կ մ ե Վ	թ պ ի Վ	Օ կ Օ		Վ ա կ	Ճ ա կ Ճ	
	i - ki-me-ni-e	pi+ri - ki - a+ri	vi - ki - vi		wa - ki	wa - ki - si	
11.	օօ ն	թ օօ ն	Օ ն	Ւ ս	Վ ս		
	i - ni	pi - i - ni	vi - ni	su - ni	wa - ni		
12.	օօ ն Վ	թ օօ ն	Օ ն ս				
	i - ne - e	pi - i - ne	vi - ne - sa				
13.	օօ ն ս	թ պ ն				Վ ս	
	i - nu	pi+ri-nu				wa - nu	
14.	օօ լ	թ լ	Օ լ	Ճ լ	Վ լ	Ճ լ	
	i - la	pi - la	vi - la	si - la	wa - la	wa - ta	
15.	օօ լ Ճ	թ օօ լ Ճ	Օ լ	Հ լ Վ	Վ լ Օ	Վ լ Վ	
	i - ld	pi - i - ld	vi - ld	si - ld - e	wa - ld - wi	wa - ld - ni	
16.	օօ լ լ	թ օօ լ լ	Օ օօ լ լ				
	i - ti - e	pi - i - ti	vi - i - ti				
17.	օօ լ լ Վ	թ օօ լ լ Վ	Օ օօ լ լ	Հ լ Վ	Վ լ Վ	Ճ լ Ճ	
	i - ti-la - e	pi - i - ti-la - e	vi - i - ti-la	si - ti - la - e			wa - le - ma - x
18.	օօ լ լ ս		Օ լ ս				
	i - ti - i-ni-e		vi - li+ri - ni				
19.	օօ ս Վ	թ ս Վ	Օ ս	Ճ ս օօ Ճ	Վ ս Վ		
	i - si - e	pi - si - e	vi - sa	si - i - si	wa - si - pa		
20.	օօ պ Ճ	թ թ օօ Ճ	Օ թ Վ Ճ		Վ պ օօ Ճ	Ճ թ (Ճ)	
	i+ri-pi - si	pi - pi - i	vi-pi - ni - pa		wa-pi - i	wa - pi - (si)	

The foregoing particles are formed in accordance with definite rules. Thus ㅁ ㅂ ㄱ i-ta may be enlarged by means of the prefixes ㅂ, ㅁ, ㅅ, ㅟ, ㅓ, ㅏ (pi-, wi-, si-, wā-, ²a-); ㅁ ㅂ ㄱ i-mi becomes in its enlarged form pi-i-mi, wi-i-mi, or ²a-mi. A particle may be enlarged also by adding another full particle. Thus, for instance, ㅁ ㅂ ㄱ ㅂ ㄱ i-mi-ta-e = ㅁ ㅂ ㄱ + ㅁ ㅂ ㄱ ㅟ (i-mi + i-ta-e); ㅁ ㅂ ㄱ ㅁ ㅂ ㄱ = ㅁ ㅂ ㄱ ㅁ + ㅁ ㅂ ㄱ ㅟ; etc. A compound particle, in turn, may take the prefixes pi-, wi-, and others, like any simple particle. A similar but not identical formation of particles is known in the Mitannian language.¹

Enclitic particles include the following:

① -wi, "and," used like Latin -que:

	<i>mi+ri-wā-wi</i> ("city")	
	"calf"- <i>si-wi</i>	A 6:3 (Carchemish)
	<i>ta-a-ma-na-pa-wi</i> ("city")	A 11b:6 "
		A 15b**:4 "
	<i>-pi-i:</i>	
	ⁿ <i>ka-ma-na-si-pi-i</i>	A 6:6 (Carchemish)
	ⁿ <i>ka-ma-na-ni-pi-i</i>	A 15b**:3 "
	<i>karka(ka)-me-sá-pi-i</i> ("city")	M XI:2 (Carchemish)
	<i>-ti</i> and	
	<i>X-tá-yu+ri-ā-ti</i>	A 3:1 (Carchemish)
	<i>X-la-si-ti</i>	A 4a:3 "
	<i>X-la-wā-ti</i>	A 11a:6 "
	<i>X-pi-ti</i>	Assur e Ru 1 (Assur)
	<i>X-pi-te-e</i>	A 15b**:2 (Carchemish)

¹ Bork, "Die Mitannisprache," MVAG, XIV (1909), 33.

² Another good example occurs after the fourth and last of a group of divine names in A 15b**;1.

	<i>X-pi+ri-ti-ná-ti-mi¹</i>	A 11c:4 (Carchemish)
	<i>karka(ka)-me-sá-(city')²-mi</i> ("land")	I M X:1 (Carchemish)

 -gu, very rare, but demonstrated by its interchanging with other endings in

U ① ② X-u-gu II M LII:3 (Marash)

11 11  X-u-su " "

॥ ॥ X-u-pa-ni II M LII:4 “

	^a <i>X-gu</i>	AAA, II, Pl. XXXVIII:2 (Tell Ahmar)
	^a <i>X-ni</i>	A 2:3 (Carchemish)

Infixed particles are rare. They include

 *ti* and  *te:*

                                  <img alt="Decorative horse head symbol" data-bbox="14480 750

 ki; compare

    X-ā-ki-tá CE V:1 (Kara Burun)

 *X-ā-li-si* I M XXI:3 and 1³ (Marash)

♪ ♪ ♪ ♪ ♪ ♪ *²a-te-ki-wā* A 15b**:3 (Carchemish)

"   " ²*a-te-ma-wā* A 6:9 "

š̪₁₁ s̪₁₁ *X-i-ki-tá* AAA, II, Pl. XXXVIII: 5 (Tell Ahmar)

" " X-i-ā-pa A 11a:5 (Carchemish)

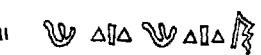
¹ For another example of *-ti-mi* see A 2:6.

² The “city” sign, actually written before *mi*, belongs after it.

³ Head only of the rabbit in l. 1.

VOCABULARY

The meanings of words are suggested sometimes pictorially by their ideograms, sometimes by their context, and sometimes by phonetic spellings which resemble those of words known already in some other Asianic language or languages. The context in inscriptions A 11a (Carchemish) and I M XXI and II M LII (Marash) is especially helpful in explaining such terms of relationship as

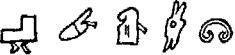
	"son"- <i>na-mi-i-wā-si</i>
	"son"
	"grandson"- <i>si</i>
	"grandson"
	"grandson"- <i>ma-mi-ka-ki-su</i>
	"great-grandson"
	<i>X-ni-i-ni-i-su</i>
	?
	<i>X-u+ri-ti-su</i>
	?

The word for "great-grandson" is written with a different ideogram in

 *X-mi-ka-ki-si* CE XIII:3 (Egri Kōi)

The fourth term in our list may be compared to Lycian *nēnni*, "sister."¹ The meaning of the fifth escapes me. For variants of the first and second terms compare Meriggi, pages 199 ff.

To judge by its ideogram, the word

 *X(ka+ri-pa+ri-ta)-si* A 15b**:3 (Carchemish)

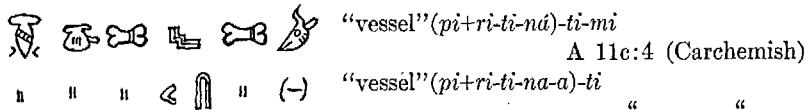
means "footstool." Perhaps it is the same word found in Sumerian-Akkadian as *qartappu* etc.

The group meaning "prince" or similar is written

 "prince"(*yu+ri-i-na*)-*si* A 11a:1 (Carchemish)

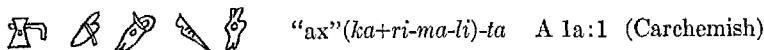
¹ Meriggi, "Beiträge zur lykischen Syntax," KAF, I (1930), 422.

A word for "vessel" or "vase" is written

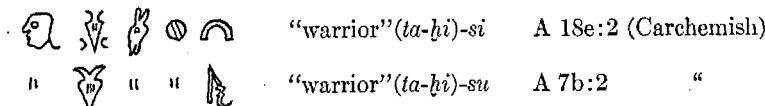


The syllables *-ti-mi* and *-ti* are enclitic endings.

The ideogram for "ax" is followed by its phonetic spelling and the ending *-ta* in

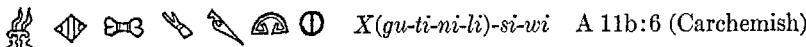


If in

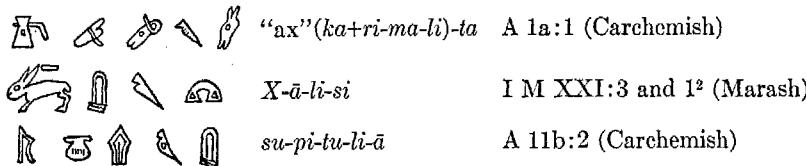


the double ideogram really means "warrior" or "hero" and is followed by its complete phonetic spelling, perhaps it may be compared with the Hittite cuneiform *zahhiya*, "to fight."

The word



appears among pictures of animals used as offerings to the gods (cf. p. 56). It is probably equivalent to the Hittite cuneiform word *kuttanalli*.¹ Its ideogram may represent an altar with smoke rising from it. The final *-wi* is our enclitic "and." The ending *-lis* preceding it is common in our hieroglyphic inscriptions. Other examples of it with various case endings are



¹ Friedrich, "Zu AO 24, 3," ZA, XXXVI (1925), 275.

² Head only of the rabbit in l. 1.

TEXTS

To suggest the syntax of the Hittite hieroglyphic inscriptions I give here transliterations and translations of a few passages.

A 11a (Carchemish)

ime(i-me) *"ka-ti-i-si* "ruler"(*yu+ri-i-na*)-*si*
 "I, Katis the ruler,

karka(ka)-me-sa-wā-si ("city") *umena(na)* "prince"-*si*
 of Karkames the land the prince,

"mi-ha-sa *umena(na)* "prince"-*ā-a-si* "son"-*na-mi-i-wā-si*
 of Mihas of the land the prince the son,

"a-si-ti-i-tu-ma-wā-sa-a *umena(nā)* "prince"-*ā-a-si* "grandson"-*si*
 of Astituma of the land the prince the grandson,

In English order we would say: "I, Katis the ruler, the prince of the land of (the city of) Karkames, the son of Mihas the prince of the land, the grandson of Astituma the prince of the land," This is the sort of introduction used in all of the longer inscriptions from Carchemish. The personal names are clearly indicated by use of the tang. Among the other words the only question is whether some slightly different term such as "governor" should be used instead of "ruler."

II M LIII (Nigdeh)

↑ ηρού ↑ Δ. ψ. ηρού ο ηρού < Η Η Η Η Η Η Η

5 82 11-13

wā-i X-mí-ni si-hí-i-na-su a-wa-a-ne a-pi-si “prince”-*su*
 “This column(?) Sihinas made, the . . . prince.”

This inscription is cut on what seems to be the base of a column. The second word, then, means either "column" or some more generalized term such as "monument." This same group of signs, except that the first is accompanied by the ideogram mark, appears in Carchemish A 15b*. The last two words contain a title. Since the second of them is the ideogram for "prince" plus the nominative ending, the other may be an adjective such as "great."

Assur 8

↑ ፩ የ፩ በ ስ፩ ቃ ቃ ስ፩ ስ፩ ቃ ስ፩

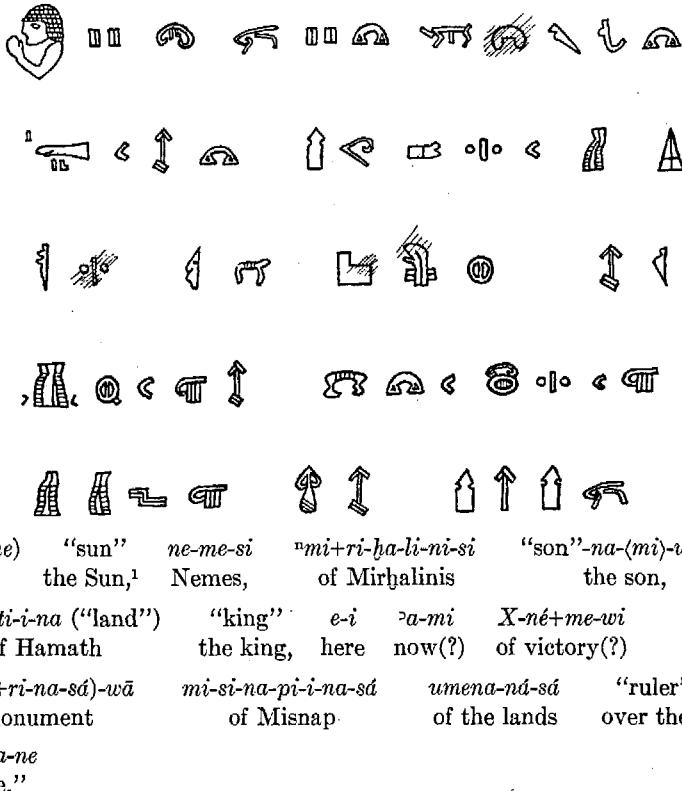
wa-ā-i-a *X-ka-pa-ni* *X(pa)-ā-si*
 "This" bowl(?) . . . pas

凡 鸟 𠂔 < ④ 凡 𠂔 𠂔 𠂔 [凡↑凡] 𠂔

The same ideogram used above for "column(?) is followed here by a different phonetic series. The same spelling occurs in M I (from Babylon). In each of these latter instances the inscribed object appears to be a large bowl. The word *halpi(pi)-na* seems to lack a declensional ending. We assume that it applies to the god. The sense then would be: ". . . pas made this bowl belonging (i.e., dedicated) to (the god) Tarku of Halpi."

¹ This and the preceding word are written as a unit, for the "prince" sign stands in the middle of a column. Are the words perhaps in apposition, or have we a compound analogous to "Grosskönig"?

M IV B (Hamath)



The idea above seems to be: "I the Sun, Nemes, the son of Mirhalinis, the king of Hamath, built this monument of victory over the ruler of the lands of Misnap." We include this text, however, more because of the problems it raises than because of the help it gives. The case endings which we attempted to identify on pages 54-55 play strange pranks here.

The word for "son," here as in A 11b:1, lacks the *mi* with which it is usually written. I have no basis for my translation of the three words after the "king" sign except comparison with similar inscriptions in

¹ The epithet "sun" was commonly given to kings in the cuneiform inscriptions from Boghaz Kōi. Cf. Weidner, "Politische Dokumente aus Kleinasiens," BKS, VIII (1923), 2 and 4.

neighboring languages. *Wā-li* is the demonstrative pronoun *was* with the *-li* ending. This pronoun in the form *wā-i* appears at the beginning of a large inscription from Kara Burun (CE V:1), preceding the same word *wi+ri-na-sd-wā* (there written without its initial ideogram). Hence we translate these two words as "this monument," "this inscription," or something similar. The spear, frequent in many inscriptions, probably pictures a title such as "ruler" or "warrior."

Two other inscriptions from Hamath (M III B and M IV A)¹ treat of the same subject, the conquest of a neighboring territory. Both are slightly longer than M IV B, though M III B has lost its left half, including the end of the text. As far as M IV B goes, these three inscriptions read exactly alike except for the name of the conquered territory and the syllables following the ideograms for "land." The additions are



"conquered"-*wi-i*
"and conquered"

halpi(pi)-i-na-wa
of Halpi

"land" [...] M III B
the land . . ."



"conquered"-*wi-i*
"and conquered"

na-mu-ma-si
of Namumas

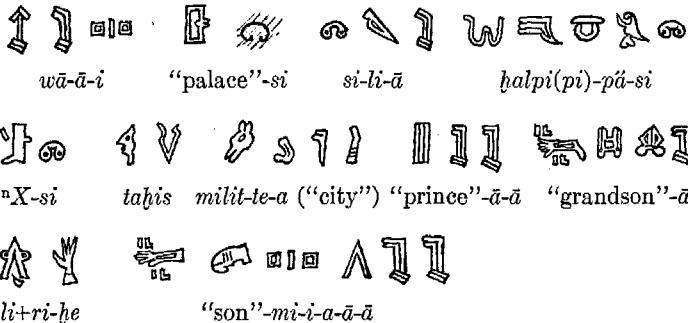
"land" M IV A
the land."

The first word in each addition is evidently a verb expressed by an ideogram and followed by the enclitic *-wi*, "and," while the second is a geographic name. The sign for "land" is evidently to be pronounced, in spite of its lack of a phonetic complement or ending, since in M III B it is preceded by what we may fairly call an appositional genitive. The fact that no genitive ending is visible in the parallel text M IV A is quite in keeping with similar omissions in texts previously discussed.

¹ A good synopsis of the Hamath inscriptions is given by Rylands, "Hittite Inscriptions," PSBA, XX (1898), 263 ff. Another inscription from the neighborhood of Hamath has been published by Ronzevalle, "Stèle hittite des environs de Res-tan," and again by Sayce, "A New Inscription from Hamath," PSBA, XXXI (1909), 259 ff.

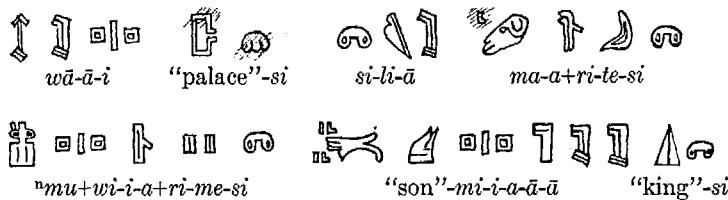
Two building inscriptions from Malatya¹ are

M XVI A



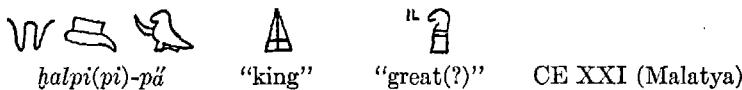
and

II M XLVII



Freely translated, the first reads: "This palace was built for Halpīpa the grandson of . . . s, the warrior, the prince of Malatya, the son of Lirhe." The second, beginning in the same way, states: "This palace was built for Martes the son of Muwiarmes(?), the king."

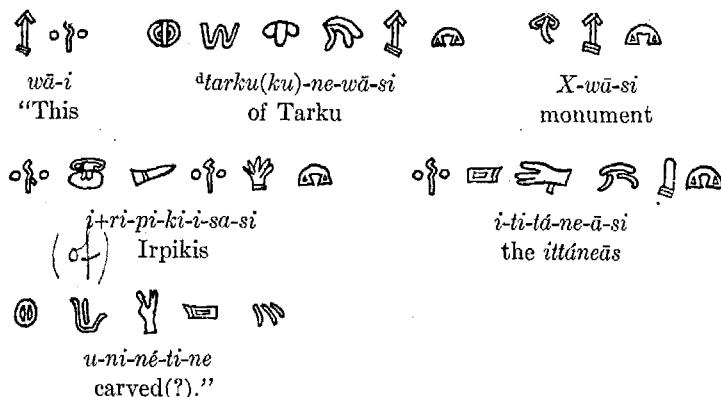
The ideogram for "palace" is analogous to the Egyptian hieroglyphs for "house," "temple," etc. The word *siliā*, the only one not otherwise accounted for, is evidently the verb. Our passive translation is based on the assumption that the -ā with some of the nouns is the dative ending; but, if so, the correlation of case endings is as perplexing as we found it on page 68. King Halpīpa of the first text is named again in



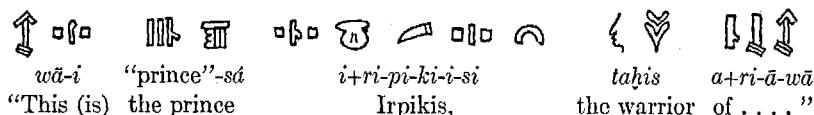
¹ See good reproductions of both from photographs, Meyer, Pls. VI-VII.

where the final sign may be an ideogram for "great." The word between *tahis* and "prince" is evidently the name of the city itself. Its *te* sign is a specialized form found again in the name of Martes in the second text. The initial sign of the city's name, then, is ideographic. Its known phonetic value, *mi*, comes about naturally by acrophony. The mention of grandfather before father is unique, due perhaps to the greater renown of the former. The name Martes in the second text may be compared to cuneiform Mar-di-i or Mar-di-ia.¹

The great rock sculpture at Ivriz² includes two inscriptions, one before the face of the god, the other behind the smaller figure of the king who worships him. The text beside the god³ reads:



In English order we would say: "The *ittáneās* of Irpikis carved(?) this monument of Tarku." Behind the king we find the statement:⁴



The ideogram for "monument" is apparently a variant form of that discussed on page 67, where with other phonetic complements it stood for "column" and for "bowl." That "Irpikis" is a royal name appears certain from its occurrence in CE XII:1 (Bulghar Maden).

¹ Tallqvist, p. 128.

² Meyer, Pl. XV.

³ II M XXXIV A; Sayce in PSBA, XXVIII (1906), 133-34 and pl.

⁴ II M XXXIV B; Sayce, *loc. cit.*

The form there is the same as in the first text here. That its ending *-sas* is another means of expressing a genitive is clear from the context of this name in CE XII:1 and from the context of a similar form *"mi-ha-sa-si* in A2:1.¹ Does the choice between *-wa* or *-pa* on the one hand and *-sa* on the other depend on the termination, consonantal or vocalic, of the stem to which the genitive ending is attached? That principle is evident in cuneiform Hittite, where it seems due to the Indo-European element in that language.

The general nature of the lead strip inscriptions from Assur may be judged by contrasting them with other texts. On these strips the words and phrases most common in the historical and religious inscriptions from Asia Minor and Syria do not occur. The fact that no divine names appear in these inscriptions speaks against Andrae's supposition that they are older examples of incantations on lead strips such as are known from the Greek period.² The frequent appearance of numbers (cf. p. 54) gives us the key for understanding the character of these inscriptions; they must be business documents in which quantities are mentioned.

We can still more closely define their contents by comparing their introductory words. As we see from page 63, the first word in each of the six inscriptions (for *g* is only a continuation of *f*) is identical. In all of them appears also an ideogram showing in profile a face with extended tongue, to which I attribute the meaning "speak." These two characteristics indicate that the Assur lead strips are letters, written probably in the oriental style best represented by the Assyrian introductory phrase *ana X bēliya qibima umma Y*: "To X, my lord, speak: Thus (says) Y." On the analogy of this Assyrian phrase, of a type common in oriental epistolography, we can try to explain the introductory words of our Assur inscriptions.

The first word in all these letters will correspond to *ana*, "to." The second, different throughout except for the equivalence of *b* and *d*, will designate the addressee. The names *wāp̥ipairiā*, *Xnairiā* and its variant, and *kakaā* have a final *-ā*, which is perhaps the dative ending

¹ The same phrase occurs again, but without the final *-si* of *Miħas*, in A 11a (see p. 67).

² Andrae, "Hettitische Inschriften auf Bleistreifen aus Assur," WVDOG, No. 46 (1924), 5.

(cf. p. 55). At any rate, the case formed with *-ā* is evidently that used after the preposition *'axwa*, "to." In c, e, and f the name is combined with or replaced by a title. The titles used—*wāsasapamewi*, *nuwime*, *aāme*—probably include the 1st person singular pronoun (see p. 56), just as does *bēliya* in the corresponding Assyrian phrase. The fact that the personal name *tang* is not used in these texts suggests that they are older than the inscriptions of Marash and Carchemish. Yet they use the division mark more regularly than do any other Hittite inscriptions.

The third element, *takas kisīa/e*, probably identifies the writer. That he was the same man in each case, a fact already recognized by Andrae,¹ is well proved by the uniformity of all these inscriptions. That his name or title consists of at least two elements appears from the form *[ta]kasia [ki]sui* in d. The final, or in that instance medial, vowel or vowels, may perhaps be weak particles (cf. pp. 60–63). This phrase is probably a title or epithet, for in e it is replaced by another, *xrinī wāsī*.

The next word, as previously stated, expresses very clearly by its initial ideogram the idea of "speaking" and corresponds to the Assyrian *qibima*, "speak." The phonetic complements following this ideogram vary somewhat. The two words after the verb presumably amount to our phrase "as follows."

Since all these letters, though written by one person to different correspondents, were found together, we may consider them forerunners of the "carbon copies" of today.

PHONOLOGY

We are not yet in position to write about the phonology of the Hittite hieroglyphic. A few words, however, must be devoted to explaining the transliterations followed in this paper.

According to my decipherment there are sixteen sounds in our hieroglyphic inscriptions, comprising twelve consonants and four vowels. The consonants found thus far are *č*, *w*, *p*, *t*, *k*, *h*, *m*, *n*, *r*, *y*, *l*, *s*; the vowels, *a*, *e*, *i*, and *u*.

Voiced and voiceless consonants are not distinguished. For ex-

¹ *Op. cit.*, p. 6: "Die fast genaue Gleichheit der Breiten stimmt überein mit der vollkommenen Gleichmässigkeit der Schrift und weist alle Inschriften einer Entstehungszeit, ja sogar einer Schreiber zu."

ample, the same syllable *ti* is written in "Amati" (p. 17, cuneiform Amat, etc.) as in "Intilimi" (p. 36, cuneiform Indilimma). This situation is in agreement not only with the number of signs (56) in our Hittite syllabary, but also with the general character of all the comparable languages of Asia Minor. According to general custom, then, I have used the voiceless consonants regularly in transliterations. The syllable *gu* is the only exception, since it could be differentiated from *ku* by its occurrence in the geographic names Gurgum (p. 18) and Sagur (p. 26).

The *w* interchanges sometimes with *v*, sometimes with *m* (cf. p. 30), or may even be lost completely (cf. p. 29).

Interchanges of *pa* and *wa* syllables in the genitive ending (p. 55) and of *pa* and *wi* elsewhere (p. 28) join with an instance in which the personal name Gурpas is written Guras (p. 41) to indicate that our *p* is relatively weak.¹

The consonant *h* is rare, at least in contrast with the cuneiform Hittite. Perhaps the original *h* sound became modified in the course of time into the smooth breathing; or it may have disappeared in the writing just as did some of the laryngeals in Assyrian cuneiform.

Possible varieties of nasal sounds were suggested on page 16.

The consonant *r* does not appear at the beginning of a word.² For its relationships to *y* and *l* see page 13.

The *y*, like the *w*, may be omitted (cf. p. 46).

The consonant *l* does not appear here as often as it does in many other languages of Asia Minor.

The nature of the sibilant which I have regularly transliterated as *s* remains uncertain.³

Of the four vowels, the most certainly identified are *a* and *i*. The signs which we have taken to represent *e* and *u* are used far less frequently than the others as phonetic complements. Why are the writings *te-e*, *ku-u*, and *ne-e*, for example, so rare in comparison with *pa-a*, *sa-a*, *pi-i*, and *ti-i*? And why is *ka* never followed by *a*?

The hieroglyphic vowel *i* evidently stands not only for its own proper sound but also for other sounds intermediate between *i* and *u*,

¹ Cf. Assyrian *pi*, which can be read *wi* also.

² Unless perhaps in one pair of examples on p. 46.

³ Cf. Ugnad in ZA, XXXVI (1924), 134.

whereas in cuneiform *u* often serves the latter purpose. Contrast the following spellings:

HIEROGLYPHIC	CUNEIFORM
Miska (p. 33)	Muški
Mitalis (p. 38)	Mutallu
Tini (p. 18)	Tunni

On the other hand, the cuneiform sometimes agrees with our hieroglyphs, as in

HIEROGLYPHIC	CUNEIFORM
Misu (p. 32)	Miši
Intilimi (p. 36)	Indilimma
<i>tirsa</i> (p. 10)	<i>sirâšu</i> (but cf. <i>θύρος</i>)

From occurrences of the divine name Gupapis in the dative(?) as *gu-pá-pi-ā* (p. 55) and *gu-pá-pi-pi-ā* (A 6:6)¹ it appears that doubled (properly, intensified) consonants may be represented by either a single or a double writing.²

Double consonances may and doubtless do occur frequently, even though the writing perforce indicates a succession of single consonants each followed by a vowel.

¹ Cf. similar variations in nom. and acc. forms, pp. 48 and 55.

² In spite of a strong tendency to single writing in the Semitic group of alphabetically written languages, even there double writings sometimes occur; cf. Guidi, "Summarium grammaticae Arabicae meridionalis," *Le Muséon*, XXXIX (1926), 4, § 6.

III

HISTORICAL RESULTS

Monuments bearing Hittite hieroglyphic inscriptions have been found scattered over a wide area. The territory involved extends in a long strip from Sipylos on the western coast of Asia Minor eastward through the heart of that region, coming rather nearer to the Mediterranean Sea on the south than to the Black Sea on the north and continuing into North Syria between Marash and Hamath. Outside of this area such inscriptions have been found in only two places, Assur and Babylon. The Assur lead strips, containing probably business letters, come presumably from a country abounding in that metal, that is, from eastern Asia Minor. In favor of this supposition is the fact that the characters of the so-called Kara Burun inscription (CE V), from that part of Asia Minor, bear the closest resemblance to those of the Assur lead strips.¹ Mention of the city of Halpa in two inscriptions, one on a bowl (Assur 8), the other on a stela (M II), shows that they originated at that old and important capital of a North Syrian state, though both of them were found at Babylon. Another Hittite inscription from Babylon (M I) proves its origin by mentioning Karkus, the city-god of Carchemish. These last three inscriptions were evidently carried off to Babylon by victorious armies.

The large area over which Hittite hieroglyphic inscriptions are found suggests that they cover a long period of time also. We cannot believe that the people who used them could quickly conquer such an area as that from Sipylos to Hamath, especially since there is a lack of historical documents and no such considerable conquest could have taken place without leaving an echo in the records of neighboring peoples. The oldest datable hieroglyphic inscriptions, the seals of Šupiluliuma and Arnuwantaš,² show that already in their day, in the

¹ Or the strips may have been written in Assur in the style of eastern Asia Minor by a merchant of that region who had migrated to Assur.

² For the use of hieroglyphs at Boghaz Kōi cf. H. H. von der Osten, "Four Sculptures from Marash," *Metropolitan Museum Studies*, II (1929/30), 112-32, and F. W. von Bissing, "Zur Datierung und Entstehung der chetitischen Bilderschrift," *Filologu biedribas raksti* (Riga), 1930, p. 67. Hieroglyphic legends on Boghaz Kōi tablets are published in *JRAS*, 1912, pp. 1029-38 (by Sayce), and in *KUB*, VII, Pl. 1 (cf. *ibid.*, p. 39), and *KUB*, XXV, Pl. 35 (cf. *ibid.*, p. 81).

13th century B.C., the people who used this writing were firmly established in Asia Minor. The fact that Hittite kings used hieroglyphic writing at home and the far different cuneiform for international correspondence can be explained by one of two suppositions only: (1) the hieroglyphic was the national Hittite writing, locally used at first along with the cuneiform writing, afterward supplanted entirely by the latter; or (2) the hieroglyphic writing was used only by the peoples inhabiting the southern part of the great Hittite Empire and occasionally by the kings of Hattušaš. Since regular hieroglyphic inscriptions have not been found among the Hittite archives of Boghaz Köi, I am inclined to accept the second supposition. I should like, however, to point out the high degree of culture evidenced by the use of hieroglyphic by Hittite kings. A more cultured people never uses for its own purposes the writing of a less cultured people unless, as in this case, the writing is either older or is used by many inhabitants of its territory.

When Hittite hieroglyphic writing was introduced into Asia Minor is uncertain. The fact that it was rarely used in the kingdom of Hatti proper does not prove, however, that at that time, i.e., 15th to 12th century B.C., it was not used in southern Asia Minor. In opposition to the general opinion, I believe that the most splendid period of our hieroglyphs fell in the few centuries before the coming of those barbarians who about 1200 B.C. destroyed the Hittite Empire and forced many of the peoples of southern Asia Minor to seek refuge in Syria. The exiles took with them their national writing. Between the 10th and the 8th century B.C. there was a second period of splendor for the Hittite hieroglyphs, represented mostly by inscriptions of individual city-states such as Marash, Carchemish, and Hamath. That Hittite hieroglyphic was still written in Syria and Asia Minor in the 7th century B.C. is shown by the finding of a few seals with Hittite characters at Khorsabad, ancient Dür-Šarrukin, a city built by King Sargon II of Assyria.¹

The presence of division marks and name tangs seems to me to be characteristic of relatively late inscriptions. The common impression that inscriptions in relief are older than those which are incised cannot

¹ Cf. M XXXIX. A seal very similar to M XXXIX 9 was found recently by Professor Chiera during his excavations at the palace of Sargon in Khorsabad.

be wholly justified, for the North Syrian inscriptions in relief are surely late.

We reach safer ground when we speak about the origin of Hittite hieroglyphic writing. On the one hand, it is certain that no oriental influence is present. Neither the boustrophedon arrangement of the lines nor the method of writing closed syllables can be explained as borrowed from Egyptian or cuneiform writing. On the other hand, these two important characteristics agree very well with two scripts of the western branch of the Mediterranean group—the Cretan pictographs and the Cypriote syllabary.

It would appear that our hieroglyphic writing uses some two hundred and twenty signs, consisting of two sorts. Some fifty-six are phonetic signs which are only occasionally ideographic; the rest have ideographic values only. The syllables represented by the phonetic signs all end in vowels, exactly as in the Cypriote syllabary. The latter was used at first for the autochthonous language only, but this was afterward entirely supplanted by the Greek language, in which most of the known inscriptions in Cypriote writing were composed. When I discovered this strange coincidence between the Cypriote and Hittite syllabaries, I immediately looked to see whether the signs in these two systems might not also agree with each other. Close examination of the Cypriote signs and variants¹ led to the conclusion that, although certain forms in these two systems resemble each other, there cannot be any borrowing by the Hittite from the Cypriote or vice versa. The values of identical signs in the two systems are *always* different; in fact, out of all the signs of the Hittite syllabary, among the thirty or so about the values of which I feel no doubts, I could find not one case of both pictographic and phonetic agreement with the corresponding Cypriote sign. Thus it appears very clearly that, if there was borrowing, it must have come about indirectly.

The Cypriote syllabary no doubt originated in the West. Two cases in which Cypriote forms accidentally agree with cuneiform characters do not prove anything against that origin, for the Cypriote syllabary as a whole differs far too much in principle from the cuneiform system to permit assumption of any real connection between these two

¹ Cf. esp. the great table opposite p. 80 in Hermann Collitz, *Sammlung der griechischen Dialekt-Inschriften* (Göttingen, 1884).

scripts. On the other hand, there is a real link, through the Cypro-Minoan signs, between the Cypriote syllabary and Cretan writing in both its hieroglyphic and its two linear forms.¹ But since unfortunately the Cretan writing is still undeciphered, we are not in position to prove that in addition to using some of the same pictures for their signs these two scripts are based on the same general principles.

Led by the connection between Cypriote and Hittite on the one hand and between Cypriote and Cretan on the other, I started to compare the Hittite and Cretan signs and was astonished to discover many correspondences not only in the objects represented, but also in their forms and in characteristic details. For instance, the Cretan and Hittite forms of Nos. 6, 10, 12, 13, 17, 27, 31, 32, and 39 in my table are entirely identical. It is interesting also to note the selfsame variations in Nos. 7 and 8. The pictures of a hippocamp (No. 19) and of a ship (No. 38) are very important, since they prove that the people who invented the ancestor of both Cretan and Hittite writing must have resided near the sea. These and other very instructive correspondences in form tend to show that the Cretan and the Hittite hieroglyphs had without doubt one and the same origin.²

The language of the hieroglyphic inscriptions offers more of a problem. As a basis for comparison between our language and all others which might bear upon it, I listed in two tables (see pp. 60-61) all the particles so far known from the Hittite hieroglyphic inscriptions. The formation of the particles is so distinctive that we should be able to find any correspondences available in cuneiform or Greek script, in spite of uncertainties as to the values of individual hieroglyphs, merely by comparing the untransliterated hieroglyphic groups and observing their systematic arrangement. I looked for similar particles in all the possible languages of Europe and Asia, and after long and tedious search I have to admit that they do not exist in any language known to us. Some languages are well enough known for comparison, even though we do not understand them. Among such languages which had to be discarded were Etruscan, Lydian, Lycian, Proto-Hatti (also

¹ Sir Arthur J. Evans, *Scripta Minoa*, I (1909), 68-77. From this passage are taken the Cretan signs illustrated on our p. 81.

² Moreover, the god Tarku is mentioned in a pre-Hellenic inscription from Praisos, Crete. Cf. Fritz Schachermeyr, *Etruskische Frühgeschichte* (Berlin, 1929), p. 237.

HISTORICAL RESULTS

No.	Cretan	Evans, <i>Scripta Minoa</i>	Hittite	Reference	No.	Cretan	Evans, <i>Scripta Minoa</i>	Hittite	Reference
1		4		M II:6	21		64		I M X:1
2		8		Assur f Vo 26	22		65		M XLII:9
3		10		A 11a:4	23		68		A 12:2
4		11		A 3:2	24		73		A 11a:4
5		12		A 1a:1	25		75		A 11a:4
6		13		A 13d:5	26		88		A 11a:1
7		14		CE II:3	27		92		A 6:2
8		15		CE I:1	28		97		A 17c:2
9		24		CE XVIII a:1	29		100		A 18j
10		31		M IX:1	30		107		II M LII:4
11		41		A 16c:9	31		109		A 11a:6
12		42		Assur c Ro 6	32		111		M V:2
13		44		A 12:4	33		111		A 11a:1
14		47		A 4a:2	34		112		A 12:3
15		50		A 2:6	35		112		A 1a:3
16		52		A 4a:2	36		114		I M X:1
17		54		A 14a:6	37		115		M III b:2
18		56		A 4a:2	38		116		M XI:2
19		58		A 12:4	39		130		M XI:3
20		62		A 12:4	40		133		A 6:8

because prefixal), Hurri-Mitannian, Haldian, and Elamite.¹ I hesitated longest over the Hittite language known from the Boghaz Kōi inscriptions, but even there I could not find similar formations.

Two languages, Luvi and Palai, either of which might be regarded as possibly identical with that of the hieroglyphic inscriptions, are still too little known to enable us to say anything definite about their linguistic connections. Friedrich in a brief article concerning the element *-muwa*,² basing his argument on the distribution of personal names containing it, concluded that the language of the hieroglyphic inscriptions is Luvi. Though the argument is very weak and questionable, I have no objection to it. Luvi is known to be an early dialect of the Hittite language and more under the influence of neighboring Asianic languages than its Hittite sister proper. Since most of the hieroglyphic inscriptions come from a period three or four centuries later, it would not be surprising if the Luvi language had acquired in the course of time many influences from other groups of languages. But it is all theory. All we can do at present is to await with eagerness the publication of the Luvi texts from the Boghaz Kōi archives. Then we may have safer ground for comparisons.

The hieroglyphic language presents a mixture of forms explicable on the one hand by Indo-European analogies but having on the other hand characteristics of the so-called Caucasian or Asianic group of languages. Indo-European features are: (1) the personal pronoun of the first person *ime(a)*, "I"; (2) the possessive pronouns *meas*, "mine," *tas*, "thine," *sas*, "his," *nas*, "our"; (3) the verbal endings *-ta*, *-sta*, *-stari*; (4) the case endings nominative *-s*, dative *-ā*, and accusative *-n*. On the other hand the following features must be considered strictly Caucasian: (1) the genitive case ending *-wa*, *-pa*; (2) the genitive-possessive formation *-was*; (3) the formation of the particles. In view of the Indo-European and Caucasian influences apparent in these hieroglyphic inscriptions, I had to conclude that both of those groups had participated in their evolution. Probably an originally Indo-European language was gradually affected by neighboring Caucasian languages until it became a mixture without any definite linguistic affiliation.

¹ The Cypriote language could not be considered because its possessive ends in *-okos* in contrast to the ending *-was* found in our inscriptions. Cf. F. Bork, "Die Sprache von Alasija," *Mitteilungen der Altorientalischen Gesellschaft*, VI (1930), 16.

² Johannes Friedrich, "Zu den kleinasiatischen Personennamen mit dem Element *muwa*," *KAF*, I (1930), 374 f.

Because of the great area over which Hittite hieroglyphic inscriptions have been found, some scholars have suspected that more than one language is represented in them.¹ My complete concordance shows clearly, however, that their vocabulary is a unit and that only one language is used throughout. Even dialectal differences are very few, as far as I could observe. The spelling *Karkameasa* from Gürün in Asia Minor (CE XVI:2) contrasts with the usual *Karkamesawa* from Carchemish. The ideogram for "king" plus the ending -i (II M XXXIII c:4), a unique combination, is possibly a dialectal variation; or it may represent the simple stem expressing the nominative without the ordinary ending -s (cf. p. 54).

If the language of the hieroglyphic inscriptions is a dialect of the cuneiform Hittite, the latter may assist us to trace the history of the hieroglyphic writing. Other systems of writing, such as the Egyptian, show that phonetic sign values are wont to develop according to the principle of acrophony. For example, if the picture of a foot in the Hittite hieroglyphic writing is pronounced *pa*, then the word for "foot" in the language of the people who invented that writing began presumably with *pa*. Now such a word, in the form *parihaš*, exists in Hittite cuneiform.² Again, the value *te*, written with a picture of the hairy back of the head, is derived from *tetanus*, "hair."³ Our *ka*, one of the hand signs, suggests the word *kalulupas*, "finger(??)."⁴ Perhaps the value *ta* which I have found for the picture of a head is to be connected with *balanta*, "head."⁵ The value *ki*, pictured by the sole of the foot, seems related to *kisšaraš*.⁶ This word, however, means "hand" (originally used for both the sole of the foot and the palm of the hand?). Analogous illustrations might be multiplied, were it not wiser to avoid comparisons between hieroglyphic sign values not yet fully established and the vocabulary of a language still as incompletely understood as the cuneiform-written Hittite of Boghaz Köi.⁷

¹ E.g., Sayce in JRAS, 1927, p. 713.

² Sayce, "Additions to the List of Names of Parts of the Body in Hittite," RA, XXVII (1930), 166.

³ Sayce, "The Names of the Parts of the Body in Hittite," *ibid.*, XXIV (1927), 124, and J. Friedrich in MAOG, IV (1928), 55.

⁴ *Language*, IV (1928), 127. ⁵ Sayce, RA, XXIV (1927), 124. ⁶ *Ibid.*

⁷ Besides the acrophonic principle, an artificial development in the nature of phonetic dissimilation may appear in the group of four hand signs which include the sound *n* and in the three "stroke" signs which I have interpreted as containing *r* or *y*.

INDEXES
THE SYLLABARY

Monumental (Carchemish)	Cursive (Assur)	Value	Page	Monumental (Carchemish)	Cursive (Assur)	Value	Page
𒂗	𒂗	<i>a</i>	17	𒂗	𒂗	<i>ku</i>	29
𒂗	𒂗	<i>ā</i>	31	𒂗	𒂗	<i>gu</i>	18
𒂗	𒂗	<i>e</i>	19	𒂗	𒂗	<i>ba</i>	47
𒂗	𒂗	<i>i</i>	18	𒂗	𒂗	<i>be</i>	42
𒂗	𒂗	<i>u, wi</i>	29	𒂗	𒂗	<i>hi</i>	42
𒂗	𒂗	<i>ā</i>	46	𒂗	𒂗	<i>ma</i>	18
𒂗	𒂗	<i>i</i>	46	𒂗	𒂗	<i>me</i>	27
↑	↑	<i>wa</i>	30	𒂗	𒂗	<i>mi</i>	32
↑	↑	<i>wā</i>	31	𒂗	𒂗	<i>mu</i>	32
↑	↑	<i>pa</i>	41	△	△	<i>mī</i>	36
𒂗	𒂗	<i>pi</i>	21	ණ	ණ	<i>na</i>	22, 23
𒂗	𒂗	<i>pá</i>	48	ණ	ණ	<i>ná</i>	22, 23
𒂗	𒂗	<i>pū</i>	49	ණ	ණ	<i>ne</i>	19
𒂗	𒂗	<i>pà</i>	49	ණ	ණ	<i>ni</i>	19
𒂗	𒂗	<i>pū</i>	49	ණ	ණ	<i>nu</i>	44
𒂗	𒂗	<i>ta</i>	38	ණ	ණ	<i>né</i>	44
𒂗	𒂗	<i>te</i>	35	≣	≣	<i>ye</i>	47
𒂗	𒂗	<i>ti</i>	18	≣	≣	<i>ri</i>	13
𒂗	𒂗	<i>tu</i>	35	≣	≣	<i>yi</i>	46
𒂗	𒂗	<i>tá</i>	40	≣	≣	<i>yu</i>	47
𒂗	𒂗	<i>ka</i>	27	≣	≣	<i>rx</i>	15
𒂗	𒂗	<i>ki</i>	45	≣	≣		

INDEXES

Monumental (Carche- mish)	Cursive (Assur)	Value	Page	Monumental (Carche- mish)	Cursive (Assur)	Value	Page
		la	38			x	51
		li	37			x	51
		li	36			x	52
		sa	28			x	52
		sá	26			x	52
		si	25			x	52
		su	33			x	53
		x	51				

IDEOGRAMS EXPLAINED

Ideo-gram	Transliter-ation	Meaning	Page	Ideo-gram	Meaning	Page
W	<i>balpi</i>		21		city	16
	<i>inti</i>	bull	36		conquer	69
	<i>karka/u</i>		27		god	54
	<i>karmalis</i>	ax	65		great??	70
	<i>karpártas</i>	footstool	64		king	16
	<i>gutinilis</i>	offering	65		palace	70
	<i>milit</i>	calf	71		prince	66
	<i>pirlinas</i>	vase	65		river	14
	<i>suppu</i>		37		ruler	69
	<i>tahis</i>	warrior	65		speak	72
	<i>tarku</i>	goat	34		sun	68
	<i>tarku</i>		28			
	<i>tirsas</i>	vine	10			
	<i>umenas</i>	land, country	16			
	<i>wirnasawa</i>	monument	69			
	<i>yurinas</i>	prince	64			

Ideogram plus Phonetic Complements	Transliteration	Meaning	Page
	<i>X¹-mí-ni</i> (acc.)	column?	67
	<i>X-ka-pa-ni</i> (acc.)	bowl?	67
	<i>X-wā-si</i>	monument?	71
	<i>X-né+me-wi</i>	victory?	68
	<i>X-na-mi-i-wā-si</i>	son ²	64

¹ Curved tips on this sign are to be seen in A15b*.² For other ideograms of relationship cf. p. 64.

INDEXES

87

PROPER NAMES DISCUSSED

GEOGRAPHIC	PAGE	PERSONAL	PAGE
Abinas	24	Aparias	49
Alaisa	38	Astistuma	66
Amati	7	Gurpas	41
Gurgum	18	Hanis	48
Halpi	20	Intilimi	36
Karkames	27	Irpikis	71
Mera	35	Kamanas	54
Milit	71	Katis	66
Miri	37	Ki'ikis	45
Miska	33	Kiwamas	45
Misu	32	Martes	71
Ninipi	19	Matis	20
Parka	48	Mihas	66
Saguri	14, 26	Mirhalinis	47
Tama	39	Mitalis	38
Tini	18	Miwas	32
		Nemes	68
		Pammas	41
		Sagapas	50
DIVINE		Sibinas	67
Gupappis	42	Šuppiluliuma	37
Hipas	42	Tarkutumme	34
Karkus	27	Utamania	40
Tarku	28, 34	Yurtawes	51

OTHER WORDS DISCUSSED

WORD	MEANING	PAGE	WORD	MEANING	PAGE
²ami	now??	68	siniri nene-	as fol-	
²apis		67	sa	lows?	74
²arwāmes	favorite	54	takas kisīa	(a title)	74
²axwa*	to	74	tas	thine	57
awā	make	59	tayurkas	two-year-	
ei	here??	68		old (ani-	
ime or imea	I	56		mal)	47
ittáneās	(a title)	71	unnétine	carved?	71
meas	mine	57	wāi, wāia,		
nas	our	58	wās, etc.	this	58, 69
pii	(an adverb)	58	-wi	and	62
sas	his	58			
siliā	build?	70			

* The *x* means an unknown letter.

TEXTS TRANSLATED

SOURCE	PUBLISHED	PAGE	SOURCE	PUBLISHED	PAGE
Assur.....	Assur, Pls. 2-7	72	Ivrit.....	II M XXXIV A	71
Babylon ...	Assur, Pl. 8	67	"	II M XXXIV B	71
Carchemish.	A 11a	66	Malatya....	M XVI A	70
Hamath....	M III B	69	"	II M XLVII	70
"	M IV A	69	"	CE XXI	70
"	M IV B	68	Nigdeh....	II M LIII	67

THE ORIENTAL INSTITUTE
of
THE UNIVERSITY OF CHICAGO

STUDIES IN ANCIENT ORIENTAL
CIVILIZATION

JAMES HENRY BREASTED
Editor

THOMAS GEORGE ALLEN
Associate Editor

HITTITE HIEROGLYPHS
II

THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS

THE BAKER & TAYLOR COMPANY
NEW YORK

THE CAMBRIDGE UNIVERSITY PRESS
LONDON

THE MARUZEN-KABUSHIKI-KAISHA
TOKYO, OSAKA, KYOTO, FUKUOKA, SENDAI

THE COMMERCIAL PRESS, LIMITED
SHANGHAI

	a	ə	i	u	Vowel uncertain
Vowels	ሀ	ቁ	ተ	ሮ	
Nasals	ሱ		ሸ		
χ	ኩ				
b	በ	በ	በ	በ	
k/g	ኩ	ኩ	ኩ	ኩ	
l	ል	ል	ል	ል	
m	መ	መ		መ	
n	ና	ና	ና	ና	ና = nu ና = mü
p/b	በ		በ	በ	
r	ሮ			ሮ	ሮ
s/z	ሱ = sa ሱ = zä	ሱ	ሱ		ሱ
t/d	ቁ		ቁ	ቁ	ቁ = tx ቁ = tx
w	ወ		ወ		ወ
Syllables of unknown value	ቁ	ሱ	ቁ	ቁ	ቁ

THE ORIENTAL INSTITUTE *of* THE UNIVERSITY OF CHICAGO
STUDIES IN ANCIENT ORIENTAL CIVILIZATION, NO. 14

HITTITE HIEROGLYPHS

II

By
IGNACE J. GELEB



THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS

**COPYRIGHT 1935 BY THE UNIVERSITY OF CHICAGO
ALL RIGHTS RESERVED. PUBLISHED JUNE 1935**

**COMPOSED AND PRINTED BY THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS, U.S.A.**

PREFACE

Owing to my preoccupation with *Inscriptions from Alishar and Vicinity*, I was unable to work on the second part of my *Hittite Hieroglyphs* for a period of over two years. This was more fortunate than otherwise. For when in 1934 I resumed work on the Hittite hieroglyphs, I could do so entirely uninfluenced and unprejudiced by old ideas. Naturally, I could not follow in the footsteps of those scholars who were then busy making extensive translations of various Hittite inscriptions, because I felt that the phonetic structure on which their translations rested was much too frail. It was evident that the readings of the phonetic signs would have to be settled before the hieroglyphic inscriptions could safely be interpreted.

The present study is, therefore, dedicated to the reading of the Hittite hieroglyphic signs. Problems connected with the interpretation of the language have been touched upon but rarely, and then only when necessary to illuminate the reading of individual signs. In the section entitled "The Question of the Syllabary" I hope to have settled once for all the problem of the general character of the Hittite syllabary. The principle that double consonants are not expressed in the writing is of little importance. Of greater consequence in understanding the grammatical structure is the discovery of nasalization. May it not suffer the same fate as did my syllabic theory, which in the beginning was criticized severely by some scholars, only to be quietly accepted by them later. The whole study is preceded by a bibliography of works on the Hittite hieroglyphs which have appeared since 1932. Since the bibliography in HH, I, has met with a favorable reception, this supplementary bibliography is presented in the hope that it also may be of help to scholars who wish to orient themselves in the Hittite hieroglyphic field.

The list of syllabic signs in the frontispiece of Part II as compared with that of Part I, besides being brought up to date, presents the following changes: (1) the forms of the signs are always cursive and are taken mostly from the Assur lead strips; (2) the signs are arranged

in groups following the order used in various Hittite cuneiform studies. The twelve unread syllables include some for which values could be suggested but not proved. My new reconstruction of the syllabary is based on the firm conviction that there was no homophony or polyphony in Hittite hieroglyphic writing and that no distinction was made between voiced and voiceless consonants. It shows too my belief in a four-vowel system in the Hittite hieroglyphs.

To Professor Arnold Walther for constant help in questions related to Boğazköy Hittite, to Dr. T. George Allen for his valuable help on editorial matters, and to Mrs. R. T. Hallock for her masterful drawings of hieroglyphic signs I offer my sincerest thanks.

IGNACE J. GELB

TABLE OF CONTENTS

	PAGE
SYMBOLS	xiii
BIBLIOGRAPHY	xv
THE WRITING	1
Additional General Observations	1
The Question of the Syllabary	1
Double Consonants	6
Voiced and Voiceless Consonants	8
Nasalization	9
The Syllabary	12
INDEX	37

LIST OF ILLUSTRATIONS

FIGURE	PAGE
1. INSCRIPTION FROM ANDAVAL	<i>facing</i> 18
2. INSCRIPTION FROM ERKELET	<i>facing</i> 19

SYMBOLS

Parentheses inclose syllables, single or in groups, which serve as phonetic complements of ideograms, e.g., *Karka(ka)-me-*, *umeni(me-ni)-*. Absence of parentheses around syllables following ideograms implies uncertainty as to how many syllables represent phonetic complements and how many are to be read independently. Brackets indicate lost signs; question marks, uncertain readings; < >, emendations.

Ideograms the pronunciations of which are unknown are transliterated with *X*, or are represented by their translations (if known) within quotation marks. The “ideogram mark,” the hieroglyphic symbol > c which often follows ideograms to indicate that they are such, is included in the transliterations if present in the original text. A small *x* stands for an unread syllabic sign or for an unknown element, either vowel or consonant, in such a sign. Thus *rx* represents a syllable consisting of *r* followed by an unidentified vowel.

Common determinatives are indicated by small superior roman letters as follows:

^c city	^l land, country
^d deity	^m masc. name (cuneiform)
^f fem. name (cuneiform)	ⁿ personal name

The English terms for other determinatives, and even for “city” and “land” when following the name, are spelled in full.

BIBLIOGRAPHY

[Continued from Part I]

I. TEXTS¹

[Arranged chronologically]

SAYCE, A. H. The Hittite inscriptions of Emir Ghazi and Aleppo, *in* PSBA, XXX (1908), 182–91.

SAYCE, A. H. Hittite inscriptions from Gurun and Emir Ghazi, *in* PSBA, XXX (1908), 211–19.

RAMSAY, W. M., and BELL, G. L. The thousand and one churches (London, 1909), pp. 505–12. (Inscriptions from Kara Dağ.)

WOOLLEY, C. L. Hittite burial customs, *in* AAA, VI (1914), 97. (Graffito from Carchemish.)

HOGARTH, D. G. Engraved Hittite objects, *in* Journal of Egyptian Archaeology, VIII (1922), 211–18. (Seals.)

SPELEERS, L. La collection des intailles et des empreintes de l'Asie Antérieure aux Musées Royaux du Cinquantenaire à Bruxelles (2d ed.; Wetteren, 1923), Plate VIII, No. 411 = Notice sur les inscriptions de l'Asie Antérieure des Musées Royaux du Cinquantenaire (Wetteren, 1923), Plate IV, No. 411. (Seal.)

SAYCE, A. H. The hieroglyphic inscription on the seal of Subbiluluma, *in* AOF, VII (1931–32), 184 f.

FORER, E. O. Die hethitische Bilderschrift (SAOC, No. 3 [1932]), pp. 8 and 30. (Seals.)

MICHAELIAN, G. Deux cachets "hittites" inédits, *in* Revue archéologique syrienne, II (1932), 21 f.

DELAPORTE, L., and MERIGGI, P. L'inscription hittite hiéroglyphique du Sultan han, *in* RHA, II (1932–34), 239–46.

MEDICO, H. E. DEL. Le rocher à inscriptions de Karahüyük, près de Karapunar, *in* RHA, II (1932–34), 247–50.

THOMPSON, R. CAMPBELL, and MALLOWAN, M. E. L. The British Museum excavations at Nineveh, 1931–32, *in* AAA, XX (1933), Plate CV = Illustrated London News, July 16, 1932, pp. 98 f.

OSTEN, H. H. VON DER, MARTIN, R. A., and MORRISON, J. A. Discoveries in Anatolia, 1930–31 (OIC, No. 14 [1933]), Figs. 118–19 (inscriptions from Karakuyu) and 132–33 (inscription from the neighborhood of Darende).

GÖTZE, A. Kleinasien (München, 1933), Fig. 12 and p. 166, n. 2. (Seal.)

¹ The first six items supplement the bibliography of 1931.

DELAPORTE, L. Une ville datant du XIII^e siècle avant Jésus-Christ. Une visite au palais du roi Souloumili souverain d'Assyrie, *in* Le monde illustré (Paris), 8 avril 1933, pp. 218 f.

BITTEL, K., and GÜTERBOCK, H. G. Vorläufiger Bericht über die dritte Grabung in Boğazköy, *in* Mitteilungen der Deutschen Orient-Gesellschaft, No. 72 (1933).

BITTEL, K. Die Felsbilder von Yazilikaya. Neue Aufnahmen der Deutschen Boğazköy-Expedition 1931, *in* Istanbuler Forschungen, V (Bamberg, 1934).

MERIGGI, P. Le iscrizioni geroglifiche d'Asia Minore, *in* Il Messaggero degli Italiani (Istanbul), 15 Marzo, 1934, p. 1. (Inscriptions from Karakuyu and Erkelet.)

BOSSERT, H. TH. Die "hethitische" Felsinschrift von Topada, *in* OLZ, XXXVII (1934), 145-50.

BOSSERT, H. TH. Nischan-Tepe und Nischan-Tasch, *in* AOF, IX (1933-34), 172-86.

BOSSERT, H. TH. Die Felsbilder von Yazilikaya, *in* AOF, X (1935—), 66-77.

GELB, I. J. Inscriptions from Alishar and vicinity (OIP, XXVII [1935]), Plates LI-LVII and pp. 73-75.

MERIGGI, P. Sur deux inscriptions en hiéroglyphes hittites de Tell Ahmar, *in* RHA, III (1934—), 45-57.

BITTEL, K. Vorläufiger Bericht über die Ausgrabungen in Boğazköy 1934, *in* Mitteilungen der Deutschen Orient-Gesellschaft, No. 73 (1935), pp. 13-28; and GÜTERBOCK, H. G. Die Texte aus der Grabung 1934 in Boğazköy, *ibid.*, pp. 29-39.

II. STUDIES

[Arranged by authors]

ALBRIGHT, W. F. The decipherment of the Hittite hieroglyphs, *in* American Schools of Oriental Research. Bulletin, No. 54 (1934), 34 f.

BAUER, H. Das Alphabet von Ras Schamra, Sinai-Inschriften, Hethitische Hieroglyphen, *in* Zeitschrift der Deutschen morgenländischen Gesellschaft, LXXXVI (1933), *9*.

BOSSERT, H. TH. Šantaš und Kupapa. Neue Beiträge zur Entzifferung der kretischen und hethitischen Bilderschrift, *in* Mitteilungen der Altorientalischen Gesellschaft, VI, Heft 3 (Leipzig, 1932).
Reviews: MERIGGI, P., *in* OLZ, XXXV (1932), 656-62; FRIEDRICH, J., *in* AOF, VIII (1932-33), 242 f.

BOSSERT, H. TH. Die Datierung des Heiligtums von Yasili-Kaya, *in* Forschungen und Fortschritte, IX (1933), 18 f.

BOSSERT, H. TH. [Zusatz,] *in* OLZ, XXXVI (1933), 84-86.

BOSSERT, H. TH. Das hethitische Pantheon, *in* AOF, VIII (1932-33), 297-307, and IX (1933-34), 105-18.

BIBLIOGRAPHY

xvii

BOSSERT, H. TH. Bit ȝilani—des Rätsels Lösung? *in AOF*, IX (1933–34), 127.

BOSSERT, H. TH. Nischan-Tepe und Nischan Tasch, *in AOF*, IX (1933–34), 172–86.

BOSSERT, H. TH. Zur Geschichte Malatias, *in AOF*, IX (1933–34), 330–32.

CANDAR, A. A. A. Eti hiyeroglifi üzerinde tetkikler. 534 idéogramme (Ankara?, 1933?).

DHORME, E. Où en est le déchiffrement des hiéroglyphes hittites? *in Syria*, XIV (1933), 341–67.

FORRER, E. O. Entzifferung der “hethitischen” Bilderschrift, *in Forschungen und Fortschritte*, VIII (1932), 3 f.

FORRER, E. O. Die sogenannte hethitische Bilderschrift, *in AJSL*, XLVIII (1932), 137–69. Republished in Forrer’s *Die hethitische Bilderschrift* (SAOC, No. 3 [1932]), pp. 1–32.

FORRER, E. O. Entzifferung der “hethitischen” Bilderschrift, *in XVIII^e Congrès international des orientalistes. Actes* (Leiden, 1932), pp. 47–50.

FORRER, E. O. Die hethitische Bilderschrift (SAOC, No. 3 [1932]).

Reviews: MERIGGI, P., *in RHA*, II (1932–34), 105–18; HROZNÝ, B., *in AOr*, V (1933), 142–44; FRIEDRICH, J., *in Deutsche Literaturzeitung*, 1933, pp. 1114–22.

FORRER, E. O. Neue Probleme zum Ursprung der indogermanischen Sprachen. Vortrag, gehalten an den Universitäten von Genf und Lausanne am 2. und 8. Juni 1933, *in Mannus*, XXVI (1934), 115–27.

GELB, I. J. Hittite hieroglyphs I (SAOC, No. 2 [1931]).

Reviews: ALBRIGHT, W. F., *in AJSL*, XLIX (1932), 61–66; BOSSERT, H. TH., *in AOF*, VIII (1932–33), 132–44; FURLANI, G., *in Giornale della Società asiatica italiana*, n.s. II (1932), 253–57; HROZNÝ, B., *in AOr*, IV (1932), 137–39; MERIGGI, P., *in OLZ*, XXXV (1932), 562–66; THOMPSON, R. CAMPBELL, *in JRAS*, 1934, pp. 833–42.

GELB, I. J. Remarks on the decipherment of the Hittite hieroglyphic inscriptions, *in XVIII^e Congrès international des orientalistes. Actes* (Leiden, 1932), pp. 50–53.

GLEYE, A. Bausteine zu einer kimmerischen Grammatik, *in Hethitische Studien*, Bd. II (Mitau, 1932).

HROZNÝ, B. Les inscriptions hittites hiéroglyphiques (lecture), *in AOr*, IV (1932), 373–75.

HROZNÝ, B. Die Entdeckung eines neuen indoeuropäischen Volkes im alten Orient (Prag, 1933).

HROZNÝ, B. Les inscriptions hittites hiéroglyphiques. Essai de déchiffrement suivi d’une grammaire hittite hiéroglyphique en paradigmes et d’une liste d’hiéroglyphes, *in Monografie archivu orientálnsho*, I, Livraison I et II (Praha, 1933–34).

Reviews: FRIEDRICH, J., *in ZA*, XLII (1934), 184–98; MERIGGI, P., *in Indogermanische Forschungen*, LII (1933–34), 45–51; THOMPSON, R. CAMPBELL, *in JRAS*, 1934, pp. 833–42.

HROZNÝ, B. Sur l'inscription "hittite"-hiéroglyphique Carch. I, A 6, *in AOr*, V (1933), 114-17. Republished with slight changes in Hrozný's *Les inscriptions hittites hiéroglyphiques*, pp. 183-91.

HROZNÝ, B. Les inscriptions "hittites" hiéroglyphiques sur plomb, trouvées à Assur, *in AOr*, V (1933), 208-42. Republished in Hrozný's *Les inscriptions hittites hiéroglyphiques*, pp. 121-55.

Review: MERIGGI, P., *in OLZ*, XXXVII (1934), 736-38.

HROZNÝ, B. Inscriptions "hittites" hiéroglyphiques de Carchemish. Essai de déchiffrement, *in AOr*, VI (1934), 207-66. Republished in Hrozný's *Les inscriptions hittites hiéroglyphiques*, pp. 156-215.

HROZNÝ, B. Les plus anciens rois et l'habitat ancien des "Hittites" hiéroglyphiques, *in AOr*, VI (1934), 399-407.

JENSEN, P. Ziffern und Zahlen in den hittitischen Hieroglypheninschriften, *in Zeitschrift für Ethnologie*, LXIV (1933), 245-49.

MEILLET, A. Hittite *tunnakeššar*, *in Bulletin de la Société linguistique de Paris*, XXXIV, fasc. 2 (1933), 131 f.

MERIGGI, P. Sur le déchiffrement et la langue des hiéroglyphes "hittites," *in RHA*, II (1932-34), 1-57; corrections, *ibid.*, pp. 118 f.

MERIGGI, P. Zur Lesung der "hethitischen" Hieroglyphenschrift, *in OLZ*, XXXVI (1933), 73-84.

MERIGGI, P. Die "hethitischen" Hieroglypheninschriften. I. Die kürzeren Votiv- und Bauinschriften, *in WZKM*, XL (1933), 233-80. II. Die längeren Votiv- und Bauinschriften, *in WZKM*, XLI (1934), 1-42.

MERIGGI, P. Die längsten Bauinschriften in "hethitischen" Hieroglyphen nebst Glossar zu sämtlichen Texten, *in MVAG*, XXXIX, 1. Heft (1934).

MICHAELIAN, G. Les langues des Hattis, *in Revue archéologique syrienne*, I (1931), 28-33, 45-55, 71-81, 87-91, 105-9, 120-25.

PEDERSEN, H. Hittitische Etymologien, *in AOr*, V (1933), 182-86.

STURTEVANT, E. H. Review of recent publications of Meriggi, Gelb, Bossert, Forrer, and Hrozný, *in Language*, IX (1933), 273-79.

III. GENERAL WORKS

[Arranged by authors]

FRIEDRICH, J. Kleinasiatische Sprachdenkmäler, *in Kleine Texte für Vorlesungen und Übungen*, No. 163 (Berlin, 1932).

GÖTZE, A. Kleinasiens, *in Handbuch der Altertumswissenschaft*, 3. Abt., 1. Teil, 3. Bd. Kulturgegeschichte des alten Orients, 3. Abschnitt, 1. Lfg. (München, 1933).

SOMMER, F. Die *Abhijavā*-Urkunden, *in Abhandlungen der Bayerischen Akademie der Wissenschaften. Phil.-hist. Abt.*, N.F., No. 6 (München, 1932).

SOMMER, F. *Abhijavā*-Frage und Sprachwissenschaft, *in Abhandlungen der Bayerischen Akademie der Wissenschaften. Phil.-hist. Abt.*, N.F., No. 9 (München, 1934).

STURTEVANT, E. H. Hittite glossary. Words of known or conjectured meaning with Sumerian ideograms and Accadian words common in Hittite texts, *in Language monographs*, IX (Baltimore, 1931).

STURTEVANT, E. H. A comparative grammar of the Hittite language (Philadelphia, 1933).

IV. ABBREVIATIONS

A British Museum. Carchemish; report on the excavations at Djera-bis conducted by C. LEONARD WOOLLEY and T. E. LAWRENCE (2 vols.; London, 1914-21). Plates of series A.

AAA Annals of archaeology and anthropology (Liverpool, 1908—).

ADD JOHNS, C. H. W. Assyrian deeds and documents recording the transfer of property (4 vols.; Cambridge, 1898-1923).

AJSL American journal of Semitic languages and literatures (Chicago, etc., 1884—).

AOF Archiv für Orientforschung (Berlin, 1923—).

AOr Archiv orientální. Journal of the Czechoslovak Oriental Institute, Prague (Praha, 1929—).

Assur ANDRAE, WALTER. Hettitische Inschriften auf Bleistreifen aus Assur. WVDOG, No. 46 (1924).

BKS Boghazkōi-Studien, hrsg. von OTTO WEBER (Leipzig, 1917-24).

BoTU FORRER, E. O. Boghazkōi-Texte in Umschrift. WVDOG, Nos. 41 and 42 (Leipzig, 1922-26).

CE Cornell Expedition to Asia Minor and the Assyro-Babylonian Orient Travels and studies in the Nearer East (Ithaca, N.Y., 1911).

HB FORRER, E. O. Die hethitische Bilderschrift. SAOC, No. 3 (1932).

HH, I GELB, I. J. Hittite hieroglyphs. I. SAOC, No. 2 (1931).

IHH HROZNY, B. Les inscriptions hittites hiéroglyphiques. Essai de déchiffrement suivi d'une grammaire hittite hiéroglyphique en paradigmes et d'une liste d'hiéroglyphes, *in Monografie archivu orientálnsho*, I, Livraison I et II (Praha, 1933-34).

JRAS Royal Asiatic Society of Great Britain and Ireland. Journal (London, 1834—).

KAF Kleinasiatische Forschungen (Weimar, 1927—).

KBo Keilschrifttexte aus Boghazkōi, hrsg. von H. FIGULLA, E. F. WEIDNER usw. WVDOG, Nos. 30 and 36 (Leipzig, 1916-23).

KUB Berlin. Staatliche Museen. Vorderasiatische Abteilung. Keilschrifturkunden aus Boghazkōi (Berlin, 1921—).

M MESSERSCHMIDT, L. Corpus inscriptionum Hettiticarum. MVAG, 5. Jahrg., Nos. 4-5 (1900).

I M *Op. cit.*, Erster Nachtrag. MVAG, 7. Jahrg., No. 3 (1902).

II M *Op. cit.*, Zweiter Nachtrag. MVAG, 11. Jahrg., No. 5 (1906).

MVAG Vorderasiatisch-aegyptische Gesellschaft. Mitteilungen (Berlin, 1896-1908; Leipzig, 1909—).

OIC Chicago. University. Oriental Institute. Oriental Institute communications (Chicago, 1922—).

OIP Chicago. University. Oriental Institute. Oriental Institute publications (Chicago, 1924—).

OLZ Orientalistische Literaturzeitung (Berlin, 1898–1908; Leipzig, 1909—).

PSBA Society of Biblical Archaeology. Proceedings (London, 1879–1918).

RHA Revue hittite et asianique (Paris, 1930—).

SAOC Chicago. University. Oriental Institute. Studies in ancient oriental civilization (Chicago, 1931—).

Sundwall SUNDWALL, JOH. Die einheimischen Namen der Lykier nebst einem Verzeichnisse kleinasiatischer Namenstämme. Klio, Beiträge zur alten Geschichte, 11. Beiheft (Leipzig, 1913).

ŠuK BOSSERT, H. TH. Šantaš und Kupapa. Neue Beiträge zur Entzifferung der kretischen und hethitischen Bilderschrift, in MAOG, VI, Heft 3 (1932).

Tallqvist TALLQVIST, KNUT L. Assyrian personal names. Acta Societatis scientiarum Fennicae, Tom. XLIII, No. 1 (Helsingfors, 1914).

WVDOG Deutsche Orient-Gesellschaft. Wissenschaftliche Veröffentlichungen (Leipzig, 1900—).

WZKM Wiener Zeitschrift für die Kunde des Morgenlandes (Wien, 1887—).

ZA Zeitschrift für Assyriologie und verwandte Gebiete (Leipzig, 1886—).

THE WRITING
ADDITIONAL GENERAL OBSERVATIONS
THE QUESTION OF THE SYLLABARY

For more than three years I have been waiting patiently for someone to open the discussion concerning the most important result of my work on the decipherment of the Hittite hieroglyphic writing, namely the establishment of the syllabic character of the phonetic signs, which are related in system to the Cypriote syllabary.¹ Thus far only two scholars, Albright² and Hrozný,³ have expressed themselves in favor of my theory; all the rest either have passed over it superficially in their reviews or have avoided the subject. Characteristic of the former attitude is the remark of Meriggi:

Sur les idées de l'auteur concernant le caractère des "syllabes" qui seraient toujours "ouvertes" (*pa, ta, mi*, etc., et jamais *ap, at, kar*, etc.) et sur sa comparaison avec le syllabaire chypriote et l'écriture crétoise, je ne veux pas répéter ici ce que j'en ai déjà dit (OLZ '32, col. 562 sv.), sauf mon avis, que la comparaison est d'une part prématurée et de l'autre trop superficielle.⁴

These two expressions "prématurée" and "superficielle" are the cause of my writing this section, the purpose of which is to settle once for all the character of the Hittite syllabary. In the following pages I shall try to bring forth in an "orthodox" way the complete proof for my syllabic theory. No new facts in favor of this theory are presented. The few pages which take the place of the few sentences in my earlier

¹ HH, I, 3 and 15 f.

² AJSL, XLIX (1932), 62: "We are, therefore, *a priori*, obliged to admit the extreme probability of Gelb's conclusions with regard to the extent and the nature of the Hittite syllabary."

³ IHH, p. 99: "Les valeurs syllabiques se composent toujours, autant que je vois, d'une consonne et d'une voyelle, celle-ci venant en second lieu (*na, ta*, etc.; cf. Gelb, l. c. 15)." Since Hrozný accepts without discussion my syllabic theory, he is liable to be criticized, just as much as I am, for having accepted a theory which allegedly has never been proved. Therefore Hrozný's study, even though it gives me great satisfaction to know that he is aligning himself in favor of the syllabic theory, cannot counterbalance the attacks of other scholars against it.

⁴ RHA, II (1932-34), 5.

presentation of it are only the result of the "orthodox" method, which does not allow of "jumps" in thinking, however slight and easy they may be. The facts here presented are for the most part already well known to the great majority of my readers. But I must repeat them in order to avoid possible later criticism for having omitted some important point in my argumentation.

That the so-called "Hittite hieroglyphic" monuments found over the large area extending from the western part of Asia Minor to southern Syria represent a writing no longer calls forth any discussion, even though no scholars have yet tried to prove the characters to be such, and not simple pictures used for ornamental or symbolic purposes. The fact is, however, that doubt formerly did exist in respect to the cuneiform and the Egyptian hieroglyphic, which for a long time had been considered by many scholars as merely ornamental or symbolic. For the cuneiform, compare Hyde, *Hist. relig. vet. Pers.* (1700), page 527: "Me autem judice, non sunt litterae, nec pro litteris intendebantur, sed fuerunt solius ornatus causa"¹ Concerning the symbolic value of the Egyptian hieroglyphs compare Athanasius Kircher, *Sphinx Mystagoga* (Amstelodami, 1676), e.g. page 20 b: ". . . certum est, *Obeliscos singulos*, uti diversa exhibebant, sic diversis *Symbolis*, diversoque eorundem contextu fuisse insignitos"

Evidently modern scholars have overlooked this basic link in the great chain of facts leading toward decipherment of the Hittite hieroglyphic writing. It is quite possible that at some time in the future, when we feel ourselves definitely on the road toward a complete decipherment, some of them may become aware of this oversight. Then they will try to show that all previous decipherment is faulty because evidence of fundamental importance is lacking, namely that the Hittite monuments in question actually represent writing and not mere ornamentation. To avoid such a situation we may refute all possible future objections by saying that the Hittite hieroglyphic monuments represent a writing because they present consecutively various characters arranged as in many other systems of writing. These characters cannot have a merely decorative purpose because they lack the necessary symmetry.

¹ Quotation from C. Fossey, *Manuel d'assyriologie*, I (Paris, 1904), 86 f.

If the Hittite monuments represent a writing, this writing must naturally consist of signs; and signs are usually divided into two classes: ideographic signs, which represent an idea, not necessarily a sound, and convey a message to the eye, not to the ear; and phonetic ones, which always represent a sound and convey a message to the ear as well as to the eye. Such writing must serve as the instrument of a language, and language consists of words organized in some well established order. By combining these two premises, one quite simply and naturally arrives at the conclusion that this writing consists of words expressed by signs, either ideographic or phonetic.

In the most primitive stage of ideographic writing, every single sign represents one certain idea; in more highly developed writings, two or more signs represent a more complicated idea, usually an abstraction. Thus, for instance, a creature wearing an apron and standing on two feet might represent the type *homo sapiens*. The same human being with a calamus in his hand and spectacles on his nose might symbolize a scholar. Two scholars, similarly depicted, standing face to face, might easily represent the abstract idea of discussion, disaccord, quarrel. Now what is to be done if it is desired to express only one of the meanings, such as the polite word "disaccord," rather than "quarrel"? This problem arose long ago and was solved in the following manner: Two scholars would be shown standing face to face and a picture of a cord would be added (supposing that the ancient writers had had the word "cord"), representing of course only the sound "cord," not the idea of "cord" meaning "string." Such a sign is usually called a phonetic complement because by means of its sound it gives the clew to the reading of an ideographic sign. In later periods ideographic-phonetic signs often lost entirely their ideographic values and acquired the definite phonetic values so necessary in representing personal names and abstract ideas.

During the last sixty years many scholars have made attempts to read the signs of the Hittite hieroglyphic writing. Some have made lists of explained signs, while others have tried to count all the signs used in the writing. The method is quite simple: one lists the signs representing parts of the body, animals, plants, and objects and arrives at the number of, let us say, 220 signs. But nobody before me has seemed willing to go one step farther and count all the phonetic

signs separately from the ideograms. This procedure is not much more complicated than that just described. If a list is made of words used in the Hittite hieroglyphic writing, it will very soon be seen that some of the signs appear only at the beginning of a word and are never used as grammatical endings. In most cases the words can be separated easily because during certain periods the sign | (was used to separate words from one another. In a word consisting of five signs, then, the first sign, or the first two signs, or at the most the first three, may be assumed to represent the ideogram, but the fourth and fifth signs can represent only the phonetic values which aid in the reading of the preceding ideogram. If, in counting, all ideograms are disregarded and all signs which appear in the fourth and following positions are put down on paper, the result derived will be astounding: *In all the Hittite hieroglyphic writing no more than fifty-seven¹ phonetic signs are used.*

Even to a person who has studied only superficially the history of writing this number alone speaks for itself: Hittite writing, disregarding the ideograms, cannot be alphabetic because a much smaller number of signs would suffice if it were; and it cannot be syllabic in the same sense as is Assyrian cuneiform because the number of signs would have to reach at least two hundred to express all the various open and closed syllables. But if this writing is not alphabetic, it must be syllabic; and, if it is syllabic, its nature must be such as to permit of expressing all the sounds in the Hittite language by means of the smallest possible number of signs. There exist two syllabic writings in which the number of signs approximates most closely that in the Hittite hieroglyphs: the Cypriote syllabary with fifty-four signs and the Japanese with forty-eight. Both of them disregard, at least in writing, the distinction between voiced and voiceless consonants and use only signs expressing a vowel alone or a consonant plus a vowel. The comparison with the Cypriote syllabary is especial-

¹ In HH, I, 3 and 15, I recognized only fifty-six syllabic signs in the Hittite writing. The new number of fifty-seven includes all the syllabic signs in general use but omits a few signs of local importance at Topada and Kayseri. This number is subject to possible increase or decrease by one or two. In view of the fact that some of the signs given separately in the frontispiece may be merely variant forms of a single sign, I favor the second possibility.

ly instructive because from it conclusions can be drawn, not only concerning the similarity of the Cypriote and Hittite systems, but also about the common origin of these two writings in relation to that of the third writing of the same group, the as yet undeciphered Cretan.

It is not necessary to adduce any additional proofs to substantiate my theory about the character of the Hittite hieroglyphic syllabary. The number of signs, fifty-seven, in itself precludes the possibility of any other explanation. Although the works and articles which have appeared during the last few years have been concerned largely with proving or disproving the values of a great number of phonetic signs, until now not a single sign has been proved to have a value consisting of a vowel plus a consonant or of a consonant plus a vowel plus a consonant.

“Premature” my syllabic theory was called. Nevertheless, the fact that this theory has had a definite bearing upon the results of work on Hittite problems since the appearance of my *Hittite Hieroglyphs*, I, is shown clearly by comparison of the list of signs explained by Meriggi at the end of his article in *OLZ*, XXXVI (1933), 73–86, with an earlier list of explained signs in his article in *ZA*, XXXIX (1930), 176–78. Each of the thirty-eight signs in this new list, with one doubtful exception (No. 8; cf., however, p. 23 of the present study), has a phonetic value consisting of either a vowel alone or a consonant plus a vowel! The same is true if one compares the signs explained recently by Bossert in his various articles in *AOF*, Volumes VIII–IX, with the signs discussed in his earlier *Šantaš und Kupapa* (Leipzig, 1932). No serious-minded scholar can fail to see the unmentioned influence of my syllabic theory upon the reading of the phonetic signs during the last few years. The reason why all the values for all the signs recently discussed conform without exception to my syllabic theory is clear. My theory, though officially unaccepted, has induced scholars to accept as final always only those values which are in accord with it. Mere determination of the values of individual signs cannot and will not provide any new *proofs* for this theory. Every new value which becomes established can only *confirm* the syllabic theory, which was proved already in my first work.

DOUBLE CONSONANTS

Examples of Hittite hieroglyphic spellings equivalent to non-Hittite spellings with double consonants are here listed:

1. *Wa+ra-pa-la-wa*,¹ the name of a king of Tyana,² corresponds exactly to ^m*Ur-pal-la-a* of cuneiform sources. The Greek form of this name is *Ουρπαλος*, cited after Bossert by Meriggi (OLZ, XXXVI [1933], 78).³ Compare also *'Orβαλισσηνη*, the name of a district in Asia Minor,⁴ and hieroglyphic *warpali^{sc}(wa+ra-pa-li)-sa*⁵ (I M XXI:2) with Hittite cuneiform *warpalliš*, “strong.”⁶

2. ⁿ*Mu-wa-tx-li*, the name of a king of Marash,⁷ corresponds exactly in form to Hittite cuneiform ^{l^m}*Mu-wa-tal-li*,⁸ ^m*Mu-wa-ta-al-li*,⁹ ^m*Mu-wa-at-ta-al-li*,¹⁰ and ^m*Mu-ut-ta-al-li*,¹¹ and to Assyrian ^m*Mu-tal-li*, ^m*Mut-tal-lu*, and ^m*Mut-tal-lum*.¹² The Greek forms of this personal name are *Μοταλις*,¹³ *Μουταλης*,¹⁴ *Μοταλης*,¹⁴ and *Μυταλις*.¹⁵

3. The personal name *Ku-ku-la-na* on a Hittite seal bought at Smyrna¹⁶ is the same as ^m*Ku-ku-la-a-nu*, ^m*Ku-ku-la-ni/nu*, ^m*Ku-kul-la-ni/nu*, ^m*Ku-kul-la-a-ni*, and similar forms known from Late Assyrian business documents.¹⁷ Compare also *Ku-ku-lá-num* and its variants in the Cappadocian tablets.¹⁸

¹ All new readings of the phonetic signs are discussed on pp. 12–36 under the respective signs.

² For the references, reading, and identification cf. Bossert, ŠuK, pp. 27 ff.

³ His reference to “Sardis, VII, 2 S. 97” should read “Sardis, VI, 2 S. 97.”

⁴ Pape-Benseler, *Wörterbuch der griechischen Eigennamen* (3d ed.; Braunschweig, 1884), p. 1068.

⁵ Messerschmidt's copy should be corrected thus after my collation.

⁶ Hrozný in AOr, IV (1932), 115, and Ehelolf in KAF, I (1930), 160.

⁷ Examples given by Meriggi in MVAG, XXXIX, 140.

⁸ Cf., e.g., BKS, VIII, 80:1.

¹¹ Cf., e.g., BKS, IX, 148:9.

⁹ Cf., e.g., KBo, I, 19 obv. 11.

¹² Tallqvist, p. 142.

¹⁰ Cf., e.g., BKS, IX, 126:11.

¹³ Sundwall, p. 159.

¹⁴ Sachau in ZA, VII (1892), 99.

¹⁵ Pape-Benseler, *op. cit.*, p. 967, and Sayce in JRAS, 1931, pp. 429–31.

¹⁶ D. G. Hogarth, *Hittite Seals* (Oxford, 1920), No. 326, and Sayce in PSBA, XXX (1908), 220.

¹⁷ Tallqvist, pp. 110 f.

¹⁸ F. J. Stephens, *Personal Names from Cuneiform Inscriptions of Cappadocia* (New Haven, 1928), p. 52.

4. The name of a king of Hamath, *U+ra-bi-li-na*,¹ is preserved in the Assyrian inscriptions in the forms ^m*Ir-bu-li-e-ni*, ^m*Ir-bu-li-na/ni*, and ^m*Ur-bi-li-ni*.² But the same name occurs in Nuzi as ^m*Ur-ba-li-en-ni* (Harvard Semitic Museum, Nuzi 652:5; unpublished).

5. *Ka-ka-ā*, a personal name on a lead strip from Assur (c Vo 3), has been compared by Bossert³ with a feminine name, *Kakkas*, cited by Sundwall, p. 93. However, the name *Kakkas* occurs as a "Lallwort" with or without gemination everywhere in the Near East in such personal names as ^t*Ga-ga-a*,⁴ *Ga-ga*,⁵ *Ka-ka-a*,⁶ ^m*Ka-ka-*,⁷ *Kakas*,⁸ and in the divine names ^d*Ga-ga*⁹ and ^d*Ka-ak-ka*.¹⁰

6. ^m*A-sa-tu-wa-ki?-ma-ī-sā*, the name of a king of Carchemish, probably occurs as ^m*As-ta-kú-um-me* in Assyrian documents (cf. pp. 15 and 20).

7. The city *Ha-ra-na*, often mentioned in Hittite hieroglyphic inscriptions, corresponds exactly to Harrana (cf. p. 26).

8. On the possible equation of the geographic name *Su?-tu-ma-ni-a-na* with *Šu-tu-um-ma-na-aš* compare page 32.

9. On the connection between Hittite hieroglyphic *bi-pa+ra-* and Hittite cuneiform *bippara-*, "captive," see page 17.

10. On *Wa+rx-wa-ni* = Arawanni compare page 29.

The ten examples just discussed¹¹ show clearly that in cases where

¹ References given by Meriggi in MVAG, XXXIX, 164.

² Tallqvist, p. 102.

³ AOF, VIII (1932-33), 143. Bossert's statement that gemination is used very rarely in Hittite hieroglyphic texts, although it might be called cautious, is not true. Where can Bossert attest any case whatsoever of gemination in Hittite hieroglyphs?

⁴ Tallqvist, p. 79, and *Neubabylonisches Namenbuch*, p. 62.

⁵ E. Huber, *Die Personennamen in den Keilschrifturkunden aus der Zeit der Könige von Ur und Nisin* (Leipzig, 1907), pp. 86 and 172.

⁶ Arthur Ungnad, *Babylonian Letters of the Hammurapi Period* (Publications of the Babylonian Section of the University of Pennsylvania Museum, VII [Philadelphia, 1915]), 51:1.

⁷ A. T. Clay, *Business Documents of Murashū Sons of Nippur Dated in the Reign of Darius II (424-404 B.C.)* (Babylonian Expedition of the University of Pennsylvania. Series A: Cuneiform Texts, X [Philadelphia, 1904]), 66:4.

⁸ Pape-Benseler, *op. cit.*, p. 594.

⁹ Deimel, *Pantheon*, No. 424. ¹⁰ *Ibid.*, No. 1627.

¹¹ Cf. also *bu-ba* = *buħħa* (p. 18) and possibly *sa-li* = *salli* (p. 30).

double consonants are written either in Greek or in cuneiform only single consonants are given in the hieroglyphs. Since examples to the contrary are entirely lacking, the following principle may be formulated: *Double consonants are never expressed in Hittite hieroglyphic writing.* This principle should not astonish anyone who recalls that double consonants are not expressed in Old Akkadian or Old Assyrian cuneiform writing, in Semitic alphabets, in Egyptian hieroglyphs, or in Cypriote.

VOICED AND VOICELESS CONSONANTS

The fact that the Hittite syllabary consists of only fifty-seven signs precludes any possibility of distinction between voiced and voiceless consonants in the Hittite hieroglyphic writing. To those who prefer concrete proofs to theories and logical deductions, the following examples may speak for themselves:

The sign *ka* is used to express both *k* and *g*. Thus *k* is shown in hieroglyphic *Mu-se-ka-*, Assyrian cuneiform Muška or Muški, Hebrew *Mšk*, classical *Μοσχοί* (p. 19),¹ and in hieroglyphic ⁴*Ma-ru-ta-ka-sa*, Hebrew Merodakh, Akkadian Marduk (p. 30). The consonant *g* is shown in hieroglyphic ⁴*Sá-ka-e+ra-sa*, Assyrian cuneiform Sangara, Sangar, or Sagara (p. 13).²

The sign *ku* is used to express both *k* and *g*. Thus *k* is shown in hieroglyphic *Ku-ku-la-na*, Assyrian cuneiform Kukulani/u (p. 6).³ The consonant *g* is shown in hieroglyphic *Ku+ra-ku-ma-*, Assyrian cuneiform Gurgume (p. 21), and in hieroglyphic *Se-ku+ra-*, Assyrian cuneiform Sagura or Saguri, modern Sâjûr (p. 21).

The sign *pa* is used to express both *p* and *b*. Thus *p* is shown in hieroglyphic ^{lituus}*Pa-na-mu-wa-ta-sa*,⁴ Assyrian cuneiform Panammû,

¹ See E. Dhorme in *Syria*, XIII (1932), 39.

² Tallqvist, p. 192.—Thus hieroglyphic *Karka(ka)-me-* (p. 19) can express *k*, as in Egyptian *Krkms* (and *Qrgmš*), Hebrew *Krkms*, or *g*, as in cuneiform Gar-games or Kargames (also Karkamis). Bossert's *Hargamuš* (ŠuK, p. 22) does not belong here.

³ Hieroglyphic ⁴*Ku^{swallow}-pa-pa-*, Greek *Kυβηβη*, Hittite cuneiform Kupapa-, and Assyrian Gubaba (p. 21) show the interchange of *k* and *g* on the one hand and *p* and *b* on the other.

⁴ By "lituus" I designate the sign  , following Meriggi (OLZ, XXXV, 562). The latter now (WZKM, XLI, 30 and 37, and MVAG, XXXIX, 2 and 13) reads the "lituus" sign, certainly incorrectly, as *ap*.

Aramaic *Pnmw*, Παναμυης from Asia Minor (p. 22). The consonant *b* is shown in hieroglyphic ⁴*Pa-ha-la-ta-se*, Semitic Ba^{clat} (p. 16).

The sign *ta* is used to express both *t* and *d*. Thus *t* is shown in hieroglyphic ⁴*Pa-ha-la-ta-se*, Semitic Ba^{clat} (p. 16). The consonant *d* is shown in ⁴*Ma-ru-ta-ka-sa*, Semitic Marduk, Merodakh (p. 30).

NASALIZATION

 a

 i

In heretofore accepting Meriggi's theory that the two oblique strokes often found below the signs for *a* and *i* indicate a long vowel,¹ I displayed a great lack of critical judgment. My only consolation lies in the fact that such scholars as Bossert, Hrozný, and others also recognize the two strokes as a symbol of length in the Hittite hieroglyphic writing. But are we not presupposing too great a grammatical sense on the part of the Hittites? Would it be logical to admit the existence of a symbol for vowel length in a writing which originated in the second millennium B.C., whereas many highly developed writings of the same period and even of some later periods in the Near East are known to be practically or entirely incapable of coping with the problem of designating long vowels? There are no parallels in other early writings of the Near East for the alleged existence of a special symbol for long vowels in Hittite hieroglyphic writing.

Another objection to reading *a* or *i* with two strokes as *ā* or *ī*, respectively, presents itself in such words as, in accordance with the common tendency, would have to be transliterated as ⁴*Halpa(pa)-ru-ta-a-ā-sa* in I M XXI:1 or "prince"-ā-a-sa in A 11a:1 and b:1. It would be a most unusual case of lack of economy to express long vowels by writing long vowels plus simple vowels. For such reasons it was evident that another explanation must be sought.

As has been observed by Bossert (ŠuK, p. 58), the signs *a* and *i* with the two oblique strokes do not occur in the earliest monuments from Carchemish. Hrozný (IHH, pp. 21 f.) considers these combinations as composed of *a* or *i* plus the sign *a* placed under them. For my

¹ Meriggi himself in ZA, XXXIX (1930), 184, accepted this notion from Peiser.

part, I noted that in the early Carchemish monuments the strange combinations *a-e* and *i-e* often occur, for example in *X-a-e-tx* (I M X:3), *-ta-a-e-tx X-a-e* (I M XII 1:4), *-a-e-ta-pa-wa* (I M XIV 7:4), *?-i-e-pa^{city}* (I M XII 2:1), *i-e X-e* (I M XII 2:2), *i-e x-i-e* (I M XIII 1:1). Combining this fact with Bossert's observation that in the early Carchemish monuments the signs *a* and *i* plus the two strokes do not appear, I realized that in the earlier period the combinations *a-e* and *i-e* were used for these two compound signs.¹ Hrozný's conception, then, of the origin of the latter has to be modified in that the two strokes added below *a* and *i* represent not *a* but *e*.

Easy as it had been to explain the origin and development of the signs *a* and *i* plus the two strokes, it was difficult to determine the exact phonetic values of the combinations *a-e* and *i-e*. The solution came to me through comparison with the Polish language, which has two signs, *ą* and *ę*, to express nasal sounds. The Polish *ą* is in origin the Latin *ae*.² Just as both Polish and Latin in the Middle Ages used this *ae* combination to express the nasal *ã*, so Hittite hieroglyphic writing evidently used *a+e* and from that combination developed the sign *a* plus two strokes to express *ã*. Similarly it used *i+e*, from which developed the sign *i* plus two strokes to express the value *ɛ*.

It would be impossible to go over the entire Hittite hieroglyphic material to show how this newly discovered principle of nasalization fits in each case without rewriting practically the whole Hittite grammar. Only a few typical cases of nasalization are discussed here.

Anyone who reads the translations of Hittite hieroglyphic texts made recently by Hrozný and Meriggi will be surprised to find how often these scholars are forced to recognize accusative plurals or neuters in cases where common sense would require the simple accusative singular. Meriggi in WZKM, XL, 258, could not have failed to observe that the combination *i-pa-wa-tx wani^c(wa-ni)-i*³ in the Restan and other inscriptions expresses the accusative. Because the usual *-n* suffix of the accusative was lacking, he was forced to interpret

¹ Cf. the ending *-a-e-tx* of Carchemish with *-ã-ta* (*passim*), *-ta-a-e-tx* possibly with *wa-ta-tx* (II M XXXI) and *wa-ta-ã-tx* (II M LII:3), and *-i-e* with *-i*.

² A. Brückner, *Dzieje języka polskiego* (Warszawa, 1925), p. 122.

³ Meriggi reads *i-[ba]-wa-[ta AL]TAR-wa-na-i*. Hrozný, IHH, p. 259, n. 5, takes this noun as plural.

his *wanai* as neuter. In MVAG, XXXIX, 170, he doubtfully proposes to consider this noun as a *plurale tantum*. But since a word *wanas* with personal suffixes exists in the Hittite hieroglyphs, any explanation of it as neuter or *plurale tantum* is impossible. Its clearest occurrence is in the Kara Burun superscription (CE V), which reads *wa-na-sa* 𒂗-ла-시, “the tomb of Wi(?)las.”¹

The accusative singular ending is written in the following three examples in four different ways: *usali(sa-li)-i-na turpi(tu+ra-pi)-na* in A 4d, *usali^{sc}(u-sa-li)-i* in A 13d:9, and *usali^{sc}(u-sa-li)-ā-* in M XXIII A 2f. The occurrence of a superfluous nasal sign in front of the accusative ending *-n* is paralleled, for example in Lydian inscriptions. The interchange of such accusative forms as *usalin* and *usalian* is known in Hittite cuneiform.² Similarly, *tuwarse^{sc}(tu-wa+ra-se)-i* (II M XXXIII A:3) and *tuwarsa^{sc}(tu-wa+ra-sā)-na* (*ibid.*) are equivalent forms.

As has been observed by Hrozný (IHH, p. 21) the words ⁴*Tarhu*

¹ All signs are clearly as read above on the squeeze of the Kara Burun inscription, which Professor A. T. Olmstead was kind enough to place at my disposal. The only questionable point is whether the sign which I read phonetically *wi* should not have rather an ideographic value. On *Wilas* cf. p. 35. Hrozný, IHH, p. 248, reads these signs as *I[?]-lu[?]-nā-sa-si* or ^{BALDAQUIN}*Lunasas?*; Meriggi in WZKM, XLI, 23, and MVAG, XXXIX, 79 and 141, as ^{UR}*Nuslaš* or *Anslaš*.

The word *wanas* or *wanis*—that this is the full reading of the ideogram which precedes its phonetic spellings has been proved by Meriggi in MVAG, XXXIX, 14 f.—is translated by Bossert (SuK, p. 84) and Meriggi (WZKM, XL, 258 ff.) as “altar.” Evidently neither of them connected this Hittite hieroglyphic word with the Lydian *vanaš*, the meaning of which is fully established by the Aramaic translation in the Sardis bilingual text as *m^rt* (cf. E. Littmann, *Sardis*, VI, Part 1, p. 25). Hrozný, IHH, p. 260, rejected the connection of the Hittite with the Lydian word, evidently because he did not know at that time that the whole word, not merely the phonetic complements of the ideogram, should be read *wanis*. The word *m^rt* means in Aramaic not only simply “cave” or “cavern” or “burial cave,” but also “vault,” “tomb” in general (e.g., G. A. Cooke, *A Text-Book of North-Semitic Inscriptions* [Oxford, 1903], pp. 131, 242, 308, and 310). Moreover, the models of clay houses found at Assur have been explained very plausibly by Forrer (HB, pp. 10 f.) as “der tönerner Ersatz für ein richtiges Totenhaus” and compared with the Hittite hieroglyphic ideogram. The comparison of the Assyrian models with the Hittite ideogram necessitates, however, consistent interpretation of both as “Totenhaus.” Therefore Forrer’s explanation of the Hittite ideogram as “Denkmal, Stele” cannot be right.

² Cf. E. H. Sturtevant, *A Comparative Grammar of the Hittite Language* (Philadelphia, 1933), pp. 168 and 180.

(*bu*)-*sa* "god"-*a-ã-sa* "king"-*ta-a-si* in RHA, III, Pl. 2:2 and Pl. 4:2, mean "TARBUNS, the king of the gods."¹ This *-ã-sa* ending of the genitive plural resembles so closely the nominative and accusative plural endings *-nzi* and *-nza* in Luvian² that it can hardly be considered a mere coincidence. Likewise the Hittite hieroglyphic imperative *pi-ã-tu* (A 13d:7) finds its exact correspondence in the Hittite cuneiform *pi-an-du*.³ The personal name *A-ã-me* (Assur f Vo 3) is possibly identical with ^m*An-me-i*⁴ or identical in part with ^m*An-mi-LÚ* (KUB VII 1 iv:15 and KBo II 6 iv:17 and 23).

In Hittite hieroglyphic, as in many other writings of Asia Minor, nasalization may be expressed by special signs or may be entirely unindicated. Thus ⁿ*Halpa(pa)-ru-ta-a-ã-sa* (p. 9) as compared with cuneiform ^mKalparunda lacks nasalization after *ru*. The personal name *E+ra-nu-wa-ta* (CE XVIII A:1) shows no nasalization as compared with cuneiform Arnuwanta or with ⁿ*Arnu(nú)-wa-ã-sá* of A 11b:2.⁵ The same is true of ⁿ*Sá-ka-e+ra-sa* (A 7h) as compared with cuneiform Sangara (p. 8).

THE SYLLABARY

Since the readings of the most important signs have already been established through the joint efforts of various scholars, it is unnecessary to repeat here in complete detail the steps by which such readings were reached. Hence the signs are grouped below in the same order in which they are tabulated in the frontispiece.



The value *a*, proved by the occurrence of this sign in the geographical name *A-ma-tu- = Hamath* (HH, I, 17), is certain and today almost universally accepted.

¹ "TARBUNS" is my own reading.

² Forrer in ZDMG, LXXVI, 217 and 220.

³ E.g., Sturtevant, *op. cit.*, p. 223.

⁴ *Vorderasiatische Schriftdenkmäler*, I, 91:26; the reading ⁿ*Ilu-me-i* also is possible.

⁵ The sequence of the signs is not certain. ⁿ*Arnu(nú)-wa-ã-ič-sá-sa* also could be read. The reading *arnu* of the ideogram is based on comparison with *Arnu >(a+ra-nú)-wa-ha* of A 12:5, where an identical but more elaborate ideogram is used.



Although the value *e* of this sign has been proved beyond any reasonable doubt, first by myself (HH, I, 19 and 34 f.) and then by Hrozný (IHH, pp. 102 and 311 f.), still both Bossert and Meriggi prefer to read it as *ra*. Bossert (AOF, VIII, 138) gives no reason for his reading. Meriggi (OLZ, XXXVI, 76) bases his reading *ra* on the interchange of *ha-tu+ra-na* (Assur e Vu 8; Meriggi reads *ha-tu-r-an*) with *ha-tu-e-sa* (Assur e Vu 27). There is, however, small doubt that the *e* of Assur e Vu 27 should be emended to *e+ra* in conformity with the spellings *ha-tu-e+ra* (Assur a Vo 14, b Vo 11, c Vo 12, etc.) and *ha-tu-e+ra-sa* (Assur f Vu 10).

Just as the spelling *ha-tu-e+ra-sa* expresses the word *haturas*, so the spelling ⁿSá-ka-*e+ra-sa* in A 7h (Carchemish) represents Sangara, the name of a king of Carchemish. Evidently the sign *e* in the compound *e+ra* often has no phonetic value but serves merely as a support for the sign *ra*, which never stands by itself. Compare also *X+me-tx+ra-ru* (A 11c:5) with *X+me-tx-e+ra-nú* (Assur e Vo 32 f.), *warama(wa-e+ra-ma)-a* (Assur c Ro 10 f. and similarly b Vu 4 f.) with *warama^c(wa+ra-ma)-e* (Assur a Ru 17 f.), *tunikala(tu-ni-ka-la)-sa* (A 3:2) with *tunikara^c(tu-ni-ka-e+ra)-sa* (Assur g Vo 18 f.). The interchange of *r* and *l* as illustrated in the last pair is common in Hittite cuneiform. Like *e*, the sign *a* also serves to support *ra*. Thus ⁿ*A-e+ra-a+ra-a-sa* (A 6:1) evidently has to be read Araras and must correspond to the feminine name *Apapa*.¹

It seems to me that the spellings *e+ra* and *a+ra* are usually employed either (1) after such signs as *ma*, *na*, *sa*, and *ta*, to which the tang is never directly attached, or (2) in cases where it is desired to make clear the pronunciation *ra* (cf. p. 28), since the tang alone may represent either *ra* or simply *r*. It is evident that in the language the *sar* combination should occur as often as, for example, *war*. But while *war* is written *wa+ra*, *sar* is for some unknown reason expressed by *sa-a+ra* or *sa-e+ra*. Compare the personal name *Kupapa*^{swallow-sa-}

¹ Sundwall, p. 54.—In another writing of this name, ⁿ*A-* *-a+ra-si* in A 15b**: 1, the unread sign consists of an ideogram, pronounced perhaps *ara*, plus the phonetic complement *ra* expressed by the tang. Such purely phonetic use of an ideogram finds a parallel in the case of *tra(ra)*, discussed on p. 33.

a+ra-pa-sa in A 4c with ^mḪūha-šarpaš, [^mḪ]aza?-šarpiš, and ^mTiwa-šarpaš in an unpublished Boğazköy text, Bo 10197.¹

In his reading of a geographical name corresponding to cuneiform *Me-ra+a* as *Mi-r-ra* (M XLII:9) Meriggi (*loc. cit.*) thinks to find another reason for reading as *ra* the sign to which I have ascribed the value *e*. But his reading *Mi-r-ra* not only involves the abnormality of a double consonant in the writing (cf. p. 8) but is incompatible with such Boğazköy forms as *Me-ra-a*, *Mi-ra-a*, *Mi-e-ra-a*, *Mi-i-ra-a*,² all of which are spelled with one *r*. Instead of his *Mi-r-ra* and my former *Me+ri-e* (HH, I, 34) I now prefer to read *Me+ra-e*.

↑ *i*

The occurrence of this sign in the middle of the verb *a-i-a-*, “to make,”³ as compared with Luvian *aqa-*, Hittite cuneiform *iqa-*, proves that the sign in question has the value *i*, as ascribed to it by Meriggi and Hrozný, and not *wa* as assumed in my HH, I, 30.

= *u*

The value of this sign, the monumental form of which I confused with *mu*, the cursive form with *tx*, has been determined as *u* by Bossert and Meriggi⁴ from its occurrence in the name of a king of Hamath, *U+ra-ki-li-na-sa*, which I formerly read *Mi+ri-ha-li-ni-si* (HH, I, 47).

¹ I owe this reference to Professor A. Walther.

² Friedrich in KAF, I, 367.

³ The first discovery of a verb in the hieroglyphic inscriptions (HH, I, 59 f.) I consider to be one of my most important contributions toward their decipherment. Friedrich's statement in ZA, XLII (1934), 193, that Forrer, Meriggi, and H. Bauer arrived independently at the translation of *aqa-*, “to make,” requires correction. The manuscript of chap. ii, “Sprache und Volk,” of Forrer's *Die hethitische Bilderschrift* did not reach the editorial department of the Oriental Institute until at least three months after the appearance of my HH, I. As far as I can see, both in the passages quoted by Friedrich and elsewhere in Meriggi's articles, the latter gives me full credit for the discovery and elucidation of *aqa-* in the Hittite hieroglyphs. It is, I feel sure, accidental that Professor Bauer ever published a translation of Hittite *aqa-*, for just preceding the beginning of an Indo-Chinese performance which we were attending in Leyden on September 11, 1931, I had shown him a piece of paper on which I had written the word *aqa-* and my translation of it.

⁴ OLZ, XXXVI, 79 f.



From the interchange of *apa^{2c}(a-pa)-ma-ta-a* (A 6:1) and *apa^{2c}(a-pa)-i-a-ta* (M XXIV A:2) I have drawn the conclusion that when used phonetically the sign representing the human head must have the value ²*a*.¹ While Hrozný (IHH, pp. 23 and 101) accepts the value given by me, merely changing my transcription ²*a* to *d*,² Meriggi (RHA, II, 116 f.; WZKM, XL, 235 and 237, and XLI, 20; and MVAG, XXXIX, 3 and 19 f.) feels justified in assigning the value *e* to this sign.

That the head sign cannot have simply the value *ā* as accepted by Hrozný on the basis of frequent interchange of this sign with the usual sign for *a* is shown clearly by two facts: (1) the head sign never appears in the middle of a word, but only at the beginning; (2) its value was certainly developed by the acrophonic principle from Hittite cuneiform *halanta*, "head."³

Meriggi's reading *e* for the head sign is based on etymological reasons and is therefore of only relative value; against it can now be adduced two additional occurrences in which the head sign should have the value ²*a*. The personal name ²*A-sa-tu-wa-ki?-ma-ī-sá*, which corresponds probably to "Astakumme, preserved in a cuneiform inscription (cf. p. 20), has to be divided as follows: ²*astu*-²*akimaīs*, "may ²*akimaīs* be." This last word occurs often in the hieroglyphic inscriptions and is always written with the initial head sign. In the name just cited *w* represents the *Gleilaut* between the *u* of ²*astu* and the ² of ²*akimaīs*.⁴ Again, the personal name ²*A-sa-ta-ru-wa-si* of A

¹ HH, I, 45. The second comparison there given, of words in A 7j and A 12:1, however, does not hold true.

² Similarly Bossert in AOF, VIII, 303, n.*, uses *ā*, without giving any reason or source for his transliteration.

³ Cf. already HH, I, 83. Hittite *halanta* = Akkadian *rēšu* according to KBo, I, 42 ii 11. My use of the *spiritus lenis* sign in transliterating the head sign is of course only provisional, since we do not know what kind of breathing existed in the Hittite hieroglyphic language. It may be that in the word *halanta* not the strong Assyrian *h* is expressed, but the weaker Arabic *h*, which disappears regularly in Hittite hieroglyphic. Cf. among geographical names *A-ma-tu-* with *Hmt* and *A-la-pa-* (usually written ideographically) in a new Carchemish inscription (for references see Meriggi in MVAG, XXXIX, 93), with *Hlb* (Aleppo).

⁴ Thus also Meriggi in MVAG, XXXIX, 19 f.

15b**:3 corresponds, at least in its first element, to ^m*Aš-du-wa-ri-eš(-ma)* of a Boğazköy tablet (KUB, XXII, 51 obv. 14 and rev. 2).¹



The value *u* for this sign was accepted first by myself (HH, I, 28 f.) and Bossert (ŠuK, pp. 39 and 50), then by Hrozný (IHH, pp. 22 and 115 f.). Only Forrer (HB, pp. 31 and 50), basing his conclusion on comparison of Hittite hieroglyphic *ha+ra-tu-si* with Hittite cuneiform *bartuwaš*, on use of the sign enclitically for “and” like the Luvian particle *ha*, and on the *-ha* ending of the 1st person singular preterit, assigned to this sign the value *ba*. This value was later accepted by Bossert and Meriggi (OLZ, XXXVI, 83–86) and in part by Hrozný, who now assigns to this sign not only his former values *u* and *v₁*, but also *ha?*, *he?* (IHH, p. 154), and *bi?* (IHH, p. 197, n. 12). Though a reading *u* might possibly still be assumed for this sign (call it *x*) in ^d*Ni-ka-ru-x-sa* (CE XII:5) as compared with ^d*Ni-ka+ra-wa-si* (A 6:9), it is highly unlikely. Meriggi, who believes in the value *ba* only, tried in WZKM, XLI, 42, to explain the interchange of *h* and *w* by the weakness of the intervocalic *h*. The development *Nikarawas*>
**Nikaruwās*>*Nikaruwās*>*Nikaruwās*>*Nikaruhās* is paralleled by Hittite hieroglyphic *Tuwana*>*Tu^uana*>*Tu^uana*>Assyrian *Tu^uana* (cf. pp. 23 f.). On the other hand, the reading *ba* is supported by many proper names in which this rendering fits very well. Included among these are ^d*Ha-pa-tu*=*Hepat* (Bossert in OLZ, XXXVI, 86), *x-tu-ba-pa*=*Pu(?)tu-hepa* (Bossert, *loc. cit.*), *Ha+ra-na*=*Harrana* (p. 26), ^d*Pa-ba-la-ta-se*=*Ba^ulat* (Hrozný, IHH, pp. 26, n. 1, and 154), and *Pi-ha-me*=*Pihame* (p. 25).²



This is one of the rarest signs in the Hittite syllabary. By the divergent lines on both its left and its right sides it is usually clearly distinguishable from the ideogram ||| or |||, “prince,” with all straight lines, and from |||, the ideogram for “three” plus the phonetic comple-

¹ I owe this reference to Professor A. Walther.

² Also *Ha-mu?*-*wa-ni-sa^{alt}* in A 4a:2=^d*Ha-mu* in Harper, *Assyrian and Babylonian Letters*, No. 214 rev. 15 f.? The location of this city is unknown.

ment *ra* (cf. p. 33). Because of the parallel forms *tuwa^{xc}(-wa)-ha-e* and *tuwa^{xc}(tu-wa)-* (A 6:5; cf. Hrozný, IHH, pp. 63 f.) Meriggi (MVAG, XXXIX, 3) read this sign as *há*. Inasmuch as the sign discussed in the preceding section already has the value *ha*, I would prefer to differentiate this sign as *he*.¹



bi

My former reading *ha* has to be changed to *bi*, in agreement with Bossert and Meriggi (OLZ, XXXVI, 83-86) in view of the occurrence of this sign in the personal name *U+ra-hi-li-na-sa* and in the divine name ⁴*Hi-pa-tu*.² To these two proofs I can now add two more:

1. *Hi-pa+ra-wa-ni-ha-wa-ī* "child"-*ni-na* in Assur e Ru 20 ff. = *hipparawani(n)-hawa-ī* "child"-*nin*, "and the *hippara*-child (send)." The word *hi-pa+ra-* without the ethnic ending *-wa-ni* evidently corresponds to ^{awel}*hipparaš* of the Hittite Code. The latter, on account of its interchange with Akkadian *astrum*, has been translated by Professor A. Walther as "captive."³ Less probable would be the connection of the Hittite hieroglyphic *hippara-wani* with the geographical name Hipparna, located between Urartu and Assyria,⁴ because of the great distance of the latter from Asia Minor.

2. The sign *bi* occurs also in a geographical name *Na-hi-ta*⁵ in the Andaval inscription (M XXXI c:1). This corresponds exactly to ^{1c}*Na-bi-ta* of a geographical text (KUB, XXI, 6a:6) discussed by Forrer in his *Forschungen*, I, Heft 1, p. 30. His localization of Nahita south of Karaman (cf. map at end of his book), although it approaches the truth, is not correct. The so-called Andaval inscription was not found *in situ* but had been built into a church, to which it could easily have

¹ Cf. also *X-x-be-[n]u-wa-tt* (OLZ, XXXVII, 147:4) with *[X]-x-ha-nu-w[a]-tt* (*ibid.*, 1. 6); see also Meriggi in MVAG, XXXIX, 4 and 113.

² Outside of the Gürün inscription this divine name occurs also on a stele from the neighborhood of Darende. See OIC, No. 14, Figs. 132 and 133, No. 1, where, however, instead of ⁴*Hi-pa-wa* we should read ⁴*Hi-pa-tu*.

³ Cf. his translation of the Hittite Code in J. M. P. Smith, *The Origin and History of Hebrew Law* (Chicago, 1931), p. 256.

⁴ F. Thureau-Dangin, *Une relation de la huitième campagne de Sargon* (Paris, 1912), I. 425. Thureau-Dangin on the map places Hipparna about 60 km. above Nineveh.

⁵ Thus clearly on a photograph of the Andaval inscription. See Fig. 1.

been transported from some neighboring site. Hittite Nahita, then, corresponds to Nigdeh, Arabic Nakīdā,¹ situated about four miles southwest of Andaval.



Under the influence of an observation that this sign follows the ideograms *kark* and *tark*, I gave it the value *ku* in HH, I, 27 f. All the rest of the scholars give this sign a value beginning with *d*: Forrer (HB, p. 56), *di*; Bossert (OLZ, XXXVI, 86), *du*; Meriggi (OLZ, XXXVI, 82), *du*; Hrozný (IHH, pp. 114 f.), *du?*. In spite of this general consensus, I still see no good reason for assigning the value *du* or similar to this sign. It occurs in Carchemish inscriptions in *⁹Ka+rax-ḥa-sa*, which is alleged to be identical with Greek *Kaρδούχας* (OLZ, XXXVI, 82); but what could *Kaρδούχας* or his people the *Kaρδούχοι*, who belong east of the Tigris, have to do with or in Carchemish?

On the other hand, my original reading *ku* should be changed to *ḥu*² for the following reason. As has been observed by Meriggi (WZKM, XLI, 22), the full rendering of the expression "my fathers and grandfathers"³ occurs in [⁹a-m]e-i t̄x-ta-i ḥuḥa(ḥu-ḥa)-i-ḥa in I M XII 1:3 f. Meriggi reads the word for "grandfather" as *du-ḥa* in this passage; evidently he overlooks or gives too little weight to the existence of a Hittite cuneiform word for "grandfather," namely *ḥubbaš*. The identity of the Hittite hieroglyphic and Hittite cuneiform words for "grandfather" was first noted by M. Pedersen (AOr, V, 183-86) and later accepted by Hrozný (IHH, p. 154), but the reading of the hieroglyphic ideogram with the phonetic value *ḥu* (Pedersen) or *ḥi* (Hrozný) is entirely impossible. If the two signs following the ideogram for "grandfather" in I M XII 1:3 f. are to be read phonetically, they can be read only as *ḥu-ḥa*. The sign under discussion is given thereby the value *ḥu*.

The chief deity in the Hittite hieroglyphic inscriptions is written with the ideogram *ḪU*, often with the phonetic complement *ḥu*.⁴ After careful deliberation upon all the various possibilities, I had read

¹ Cf., e.g., Yākūt, *Geographisches Wörterbuch*, ed. Wüstenfeld, IV (Leipzig, 1869), 811.

² *Karḥu(ḥu)-* is not far from *Karku(ku)-*, as I read previously.

³ This translation was first proposed by Hrozný, IHH, pp. 49 f.

⁴ References given by Meriggi in MVAG, XXXIX, 149 f.



FIG. 1.—INSCRIPTION FROM ANDAVAL



FIG. 2.—INSCRIPTION FROM ERKELET

this ideogram as Tarku (HH, I, 28). Other Hittite scholars have read it as Santas or similarly. Thus Bossert (ŠuK, pp. 39 ff.) reads it as Šantaš, Meriggi (in OLZ, XXXV, 660) as Santas or (in MVAG, XXXIX, 149) Sanduis, and Hrozný (IHH, p. 159) as Santas(?). Since I now know as *hu* the sign to which I formerly assigned the value *ku*, my previous reading Tarku should be changed to Tarhu-. Hieroglyphic ⁴Tarhu-sa or ⁴Tarhu(*hu*)-sa, then, corresponds to Luvian cuneiform ⁴Tar-hu-un-za.¹ Another proof for my reading of the main god in the hieroglyphs as Tarhuns instead of Santas lies in the correspondence of Tarhuns, the name of a king of Malatya in the Hittite hieroglyphs,² with Assyrian cuneiform ^mTar-hu-na-zi, likewise the name of a king of Malatya.³ The strange Assyrian combination *-na-zi* for the hieroglyphic ending *-n(t)s* is due to the inability of cuneiform writing to express two or more contiguous consonants without intervening vowels at the end of a word. The identity of cuneiform ^mTar-hu-na-zi with hieroglyphic Tarhuns can be proved historically as well as phonetically. Sargon in the annals of his tenth year (711 B.C.) reports the conquest of ^mTar-hu-na-zi, and on the other hand Tarhuns of the Hittite hieroglyphs is known to be the successor of Sulumeli,⁴ who under the name ^mSu-lu-ma-al is known from Assyrian sources as the adversary of Tiglathpileser III (745–727 B.C.).



The value *ka* for this sign is proved by its occurrence in *Karka(ka)-me-* (HH, I, 27), *Mu-se-ka-* (HH, I, 33), ⁴*Ma-ru-ta-ka-sa* (p. 30), and ⁿ*Sá-ka-e+ra-sa* (p. 13).



The interchange of these two signs was proved in HH, I, 35. The values which I assigned there for these two signs, *tu* for the first sign and *te* for the second, have been accepted without change by Hrozný

¹ Cited by Forrer in ZDMG, LXXVI, 218.

² References and discussion by Bossert in AOF, IX, 105 f.; he reads the name of this Malatyan king as Šantaš.

³ Tallqvist, p. 230.

⁴ See Bossert, *loc. cit.*

(IHH, p. 114) and with small changes by Meriggi (in MVAG, XXXIX, 7 f.), who reads these signs as *di* and *ti* respectively.¹

The difficulty in reading either of these two signs as *t* plus a vowel became apparent to me when it was proved that there were at least four other signs which certainly have the value *t* plus a vowel. Then, too, I have long surmised, although I have never been able fully to convince myself, that the name of a Carchemish king, ²*A-sa-tu-wa-x-ma-i-sá-a* and ²*A-sa-tu-wa-y-ma-i-sá*,² should be connected with ³*As-ta-kú-um-me*, the name of a witness in Johns, ADD, I, 131:3.³ The Assyrian form ³*Astakumme* shows a contraction in comparison with the hieroglyphic ³*Astuwakima-*, just as the hieroglyphic ³*Astaruw-* was may be a contraction in comparison with ³*Ašduwareš* of Hittite cuneiform (cf. pp. 15 f.). The simplest procedure would be to give to *x* and *y* (the two signs with which we are dealing) the values *ku* and *kú*, based on comparison of the hieroglyphic with the cuneiform personal name; but because in the following section we shall meet with a sign which certainly has the value *ku* and because in the Hittite syllabary the corresponding signs for *ki* and *ke* have not yet been identified, I give to the new signs the values *ki* and *ke*, which I believe will prove to be right, even though I cannot yet produce very convincing proofs for these values.

The interchange of hieroglyphic *ki* (or *ke*) with cuneiform *ku*, assumed above, would be duplicated in hieroglyphic *Tarki(ki)+me?* (M XLI:9) as compared with the corresponding cuneiform writing ³*Tar-kum-mu-wa*.⁴ In the latter case at least, the hieroglyphic form may be compared with the Cilician personal name *Tapkumws* (Sundwall, p. 214), which also shows *ki* instead of the cuneiform *ku*.

¹ The fundamental difference between Meriggi's and my treatment of two interchangeable syllables lies in the fact that he usually distinguishes them by assigning to one syllable a voiced consonant and to the other a voiceless one, but retaining the same vowel, whereas I do not recognize any distinction between voiced and voiceless consonants in Hittite hieroglyphs and therefore retain the same consonant but differentiate the vowels.

² References given by Meriggi in MVAG, XXXIX, 110 f.

³ The existence of many Hittite personal names in Late Assyrian business documents and letters is an established fact.

⁴ I am thereby giving up my former reading of the "Tarkondemos boss" (HH, I, 34), all the less willingly now that Meriggi in MVAG, XXXIX, 7 f., is inclined to accept my original interpretation.

The sign *ke* occurs in a geographical name, *Ke-tra(ra)¹-ma^{city}*, found twice on an inscription from the neighborhood of Ilghin (CE II:1 and 3). This reading would agree almost to a sign with classical *Kιδραμος*. That that city is meant is, however, hardly possible in view of its great distance from the place where the hieroglyphic inscription was found.²



This sign occurs in such proper names as *Ku+ra-ku-ma-* (HH, I, 18), *Se-ku+ra-* (HH, I, 14 and 26), ⁴*Ku^{swallow}-pa-pa-* (HH, I, 48, and ŠuK, p. 35),³ and *Ku-ku-la-na* (p. 6). Its value is certain.



This sign has been proved by Bossert to have the value *la* on the basis of the name of a king of Tyana, *Wa+ra-pa-la-wa-* (p. 6). This sign occurs also in the personal name *Ku-ku-la-na* (p. 6) and in the divine name ⁴*Pa-ha-la-ta-se* (p. 16).



On the basis of the interchangeable spellings ⁿ*Mu-wa-tx-li-* and ⁿ*Mu-wa-tx-x-a-* I previously gave to this sign (*x* in the second spelling) the value *la* (HH, I, 38). Since, however, the values *la* and *li* are required by the signs discussed in the preceding and following paragraphs, this sign is presumably *le*.



This sign occurs not only in ⁿ*Mu-wa-tx-li-* (see preceding paragraph) but also in *U+ra-hi-li-na-sa* (p. 14), *wa+ra-pa-li-sa* (p. 6), and *Sulu-me-li* (p. 31).

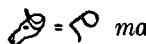
¹ On this half-ideographic, half-phonetic sign cf. p. 33.

² Quoting Pauly-Wissowa under "Kidramos": "Einer Vermutung Ramsays, Cities and Bishoprics of Phrygia I 684 [read: 184] folgend, scheint Anderson (Journ. hell. stud. XVII, 396 f.) K. zwischen Attuda, Assar [read: Attuda = Assar] und Antiocheia bei Budschák kjöj gefunden zu haben"

³ Cf. also ⁴*Gu-ba-ba* in O. Schroeder, *Keilschrifttexte aus Assur verschiedenen Inhalts* (Leipzig, 1920), 42 ii 18 and 180 ii 3.



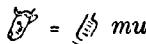
Hrozný (IHH, p. 110) recognized in this sign the value *lu*, which was accepted later by Meriggi.¹ The sign certainly contains an *u*, for it is twice followed by *wa* (cf. HH, I, 36); but there are no convincing proofs for the value *lu*. However, since but few syllables ending in *u* remain unidentified, the value *lu* for this sign is possible.



The sign *ma* occurs in the following proper names: *A-ma-tu-* (p. 12), *Ku+ra-ku-ma-* (p. 21), ⁴*Ma-ru-ta-ka-sa* (p. 30), *Ma-na-pa-tata* (Bossert in AOF, IX, 108), *Ke^l-tra(ra)-ma^{city}* (p. 21), and *Ni-rx-ma-sa^{city}* (p. 28). Its value is certain.



The reading *me* instead of Meriggi's *mi*² is proved by its occurrence in *Me+ra-e^{city}* (p. 14), *Karka(ka)-me-* (p. 19), *Sulu-me-li* (p. 31), and *Pi-ha-me* (p. 25).



The value *mu* rather than my former reading *mi* is proved by the occurrence of this sign in the following proper names: ¹*Mu-wa-tx-li-* (p. 6), *Mu-se-ka-* (p. 19), *Mu-si-* (HH, I, 32), and ^{litus}*Pa-na-mu-wa-ta-sa*. The last, a personal name, occurs three times in the Boy Bey Punari inscription (unpublished; A 1:3, B 4:1, D 3:1). It consists of two parts, *Panamuwa-* and *-tas*. The first part clearly corresponds to *Pnmw* of the Sencirli inscriptions, *Panammū* of Assyrian sources, and *Παναμυας* and *Παναμυης* from Asia Minor.³ The element *-tas* is evidently the same as *-δης*, *Dorie -δας*, in Greek patronymics, which in later times represent merely a common type of personal name without patronymic force.⁴ Whether *Panamuwas*, "Panamuwa's son," should be connected with *Panamuwa* of Sencirli I am unable to answer or discuss in the present study.

¹ *Indogermanische Forschungen*, LII, 46, and WZKM, XLI, 16.

² E.g., MVAG, XXXIX, 3.

³ Friedrich in KAF, I, 363.

⁴ C. D. Buck, *Comparative Grammar of Greek and Latin* (Chicago, 1933), pp. 340 f.



To this sign scholars have assigned more phonetic values than to any other in the syllabary. I formerly gave it the single value *ni* (HH, I, 19); Forrer gave it two values, *na* (HB, p. 24) and *n* (HB, p. 43); Bossert two, *nu* and *na* (ŠuK, p. 27); Meriggi two, *nu* and *an* (in MVAG, XXXIX, 3); Hrozný the values *nu*, *nd*, *n*, and *ni?* (IHH, p. 111). My present opinion is that this sign can be only *na*.

The value *nu* was originally accepted by Bossert and Meriggi because of the occurrence of this sign in the geographical adjective *Tu-wa-x-wa-ni-sa^{city}*, "of Tyana," which they compared with Hittite cuneiform "Tuwānuwa. But the reading *Tu-wa-na-* (plus the ethnic element *-wani-* plus the nominative *-s*), since it is contemporaneous with the Assyrian name form *Tuḥana*, is more justifiable than the reading with *nu*, which is in congruence with the much older Hittite cuneiform "Tuwānuwa. Even Xenophon's *Thoana* and later classical *Tyana* are forms chronologically nearer Hittite hieroglyphic *Tuwana* than is Hittite cuneiform "Tuwānuwa.

Meriggi (in OLZ, XXXVI, 77, n. 1) thought to prove the value *an* for this sign by the interchange of forms which he read as *i-a-an* and *i-an* in parallel passages (e.g., in A 6:9). But these words should be read as *i-a-na* and *i-na* and explained by the phonetic interchange of *ja* and *i*, well known in many other languages besides Hittite hieroglyphic. Suffice it to mention Assyro-Babylonian **jakšud>ikšud*.

The unshaken value *na* is proved more than sufficiently by its occurrence in the following proper names: *Ma-na-pa-tata* (p. 22), *Na-bi-ta-* (p. 17), *Ha-ra-na-* (p. 26), ^{litus}*Pa-na-mu-wa-ta-sa* (p. 22), *U+ra-bi-li-na-sa* (p. 14), and *Ku-ku-la-na* (p. 6).¹



The interchange of these two signs was discussed in HH, I, 22 f. The respective values *na* and *na* there assigned them were accepted without change by Meriggi and Hrozný. Bossert (ŠuK, p. 78) read these two signs as *n²* and *n³* respectively, but later (AOF, IX, 111)

¹ The value *na* is proved also by the fact that this sign is the most common one in the *n* group; for syllables ending in *a* are far more frequent than syllables ending in other vowels.

for unknown reasons used the transliteration *ni* for the first sign as does Forrer (HB, p. 40).

Since the sign discussed in the preceding section is certainly *na*, these two signs can no longer be so read; I now give them the provisional values *ni* and *ne* respectively. There remains, however, the possibility that these values should be interchanged.

The reading of the first sign as *ni* would be certain if the identity of the personal names *Sa-ru-wa-ni-si* in the hieroglyphs and ^m*Sa-a-ri-u-ni* in the cuneiform (p. 31), or of the geographical names *Ni-rx-ma-sa^{city}* in the hieroglyphs and *Ni-ra-ma-* in the cuneiform (p. 28), could be proved beyond a doubt. Comparison of such hieroglyphic forms as *Tu-wa-na-wa-ni-sa^{city}* in II M XXXIII A:1 with Hurrian ¹*Mi-zi-ir-ri-e-wa-ni-e⁸¹* also corroborates the readings of the two signs under discussion as *ni* or *ne*, but not as *na* or *nd*. Similarly, hieroglyphic "city"-*me-ni-* or "city"-*me-ne-*, to be read *umeni-* or *umene-*, corresponds well to Hittite cuneiform *ud-ne-* or *ud-ne-e-*, to be read *umene-* (cf. HH, I, 23).



The interchange of these two signs was proved in HH, I, 46. Meriggi (in WZKM, XLI, 16) has shown that in all probability they have the values *nú* and *nù* respectively. Meriggi's acute and grave accents are necessary because he recognizes a third sign with the value *nu* in the sign to which I now assign the value *na* (p. 23). Even without the third *nu*, these two hieroglyphs seem at first sight to exemplify homophony, the existence of which I have consistently denied. But have we really two signs for *nu*? It seems to me very likely that the sign *nú*, with its three branches each ending in a circle, is merely a simplification of the nine strokes of *nu*, each branch with its accompanying circle standing for three strokes.

¹ Bossert, ŠuK, p. 78, basing his conclusion mostly on this comparison, propounded the theory of Hurrian origin of the Hittite hieroglyphic language. The weakness of this argument is apparent to anyone who knows how easily various ethnic endings pass from one language to another. The language of the Hittite hieroglyphs is certainly Indo-European, and in much greater measure than I myself surmised in HH, I, 4 and 82.

The *nu* sign occurs in only one safely read personal name, *E+ra-nu-wa-la* (cf. p. 12).



This sign was read as *pa* by Bossert (ŠuK, pp. 27 f. and 66); as *ba* by Meriggi (in OLZ, XXXVI, 83); as *pa*, *ba*, *p*, and *b* by Hrozný (IHH, p. 113); and as *su?* by Forrer (HB, p. 38). Its value *pa* instead of my former reading *pi* (HH, I, 21) is certainly correct. The sign *pa* occurs in *bi-pa+ra-* (p. 17) and in the following proper names: *Wa+ra-pa-la-wa-* (p. 6), *Halpa(pa)-* (Meriggi in OLZ, XXXVI, 81), ^d*Ku^{swallow}-pa-pa* (p. 21), ^d*Hi-pa-tu* (p. 17), ^d*Ha-pa-tu* (p. 16), ^d*Pa-ḥa-la-ta-se* (p. 16), *Ma-na-pa-tata* (p. 22), ^{litus}*Pa-na-mu-wa-ta-sa* (p. 22).



Proceeding from the interchange of this sign with the usual sign for *pa* (Meriggi's *ba* discussed in the preceding paragraph), Meriggi (WZKM, XL, 234, n. 2) assigned to this sign the value *pa*.¹ The reading *pi* is preferable, however, for the following reasons: (1) The personal name *Pi-ḥa-me* (Assur e Vo 3) finds its exact correspondence in the personal name ^m*Pi-ḥa-me* of Late Assyrian letters.² (2) ^m*Pi-sa-me-tx-sa*³ (A 18a:1) may correspond to ^m*Pi-sa-an-di* of Late Assyrian contracts.⁴ (3) The form *pi-ā-tu* (A 13d:7), "may they give," corresponds exactly to Hittite cuneiform *pī-an-du* (cf. p. 12).



When I first discovered the syllabic value of this sign and read it as *ri* (HH, I, 12 ff.), Meriggi (in OLZ, XXXV, 563) criticized me as follows: ". . . und zur klaren Erkenntnis, dass der Dorn (wenigstens bei Lautzeichen) immer nur *r* sei, ist auch er noch nicht gelangt." Bossert, who then read this sign as *r* (ŠuK, pp. 24 f. and 60), received the following praise from Meriggi (*op. cit.*, col. 658): "Der Vergleich mit den anderen sichersten Ortsnamen liefert ihm bald die bei ihm

¹ Similarly now Bossert in AOF, IX, 110, n. 2; Hrozný, IHH, p. 155, accepts the values *pā* and *nā*.

² Harper, *Assyrian and Babylonian Letters*, No. 784:5.

³ The order of the signs is not certain.

⁴ Johns, ADD, II, 743 rev. 4.

endlich klare Erkenntnis, dass der 'Dorn' ein *r*, und weiter nichts, darstellt" In the meantime, however, Bossert quietly accepted my reading *ri*.¹ My transliteration of the tang with *ri* was based on two identical geographical names which I then read *u+ri-ni-i-na-a-si* and *u+ri-i-ni-i-na-su* (HH, I, 12). The second example, cited after CE V:3, is not correct, however. The squeeze of this inscription now at my disposal offers after *ri* no trace of the sign which at that time I read as *i*. Though my reading of the tang as *ri* thus loses its main support, still I had inferred correctly the syllabic nature of the tang, which all other Hittite scholars have failed to do. Its value, however, proves to be *ra*, not *ri*, for the following reasons:

1. The geographical name *Ha+ra-na*.² is mentioned in Hittite hieroglyphic inscriptions from Tell Ahmar, Sultan Han, and Kara Burun, always as the center of worship of a certain deity represented by the ideogram  with the phonetic complement *-mes* or *-mas* or, in one instance, *-memas*.³ There are two cities which might be identified with hieroglyphic *Ha-ra-na*: (1) Harrân in Mesopotamia, the seat of worship of the moon-god; (2) Har(r)ana in eastern Asia Minor, known from Cappadocian⁴ and Hittite cuneiform⁵ sources. Both names show an *a* after *r*.
2. The geographical name *Me+ra-e* of M XLII 9 is transcribed in cuneiform as *Me-ra+a*⁶ (cf. p. 14).
3. The divine name ⁴*Warama(wa+ra-ma)-sa* in A 18h (and in A 5a:1 and 3?), ⁴*Warame(me)* in I M X:2 and ¹*Warama(wa+ra-me)-sa* in II M XLVIII:1, may correspond to the divine name Arames which occurs in an Assyrian personal name, ^{ma}*A-ra-mes*⁷-*šar-ilâni*^{pl.}⁸

¹ Cf. his transliteration of *-yariš* in AOF, VIII, 138 and 143.

² References in MVAG, XXXIX, 119.

³ See Meriggi in MVAG, XXXIX, 173.

⁴ J. Lewy, *Die Küllepetexte aus der Sammlung Frida Hahn, Berlin* (Leipzig, 1930), p. 24.

⁵ F. Sommer, *Die Aḥhijavā-Urkunden*, p. 318.

⁶ The cuneiform writing *ra+a* with the end of *ra* and the beginning of *a* missing finds close parallels in Nuzi texts, where such compounds as *ta+a* often occur in shortened form. Cf., e.g., E. Chiera, *Joint Expedition with the Iraq Museum at Nuzi* (American Schools of Oriental Research, Publications of the Baghdad School, Texts), Vol. V (Philadelphia, 1934), 525:41.

⁷ The sign *mes* can be read also *šit*, *rit*, or *lak*.

⁸ Harper, *Assyrian and Babylonian Letters*, No. 186:11.

4. Hieroglyphic *hi-pa+ra-* matches cuneiform *hippara-* (cf. p. 17).
5. Attachment to the signs for *a* or *e* is in some cases intended to define the reading of the tang as *ra* (see pp. 13 and 28).
6. Various names—*X-pa-ta-wa+ra-ā* (Assur a Vo 3 f.), *X-ni-wa+ra-ā* (Assur b Vo 3), *X-sa-sa-ḥa-wa+ra* (Assur c Vo 14), *x+ra-na-wa+ra-sa* (Assur g Vo 17), *Ku-ma-wa+ra-si* (A 4a:2), ¹*A-e+ra-a+ra-sa=Arapa* (cf. p. 13), ²*Sá-ka-e+ra-sa=Sangara* (cf. p. 13), ³*Halpa(pa)-wa+ra-sa* (A 7i), *[. . .]wa+ra-sa* (A 17b:1), *x+ra-wa-ta-wa+ra-si* (RHA, II, Pl. 12:2), and a few others—exhibit the same *-ra-* element as do Hittite cuneiform *Mullijara*,¹ *Bimbira*,² *Bitta/ipara*,³ *Šummitara*,⁴ *Šunaššura*,⁵ and *Wa[mb]adura*,⁶ as well as many names from Asia Minor, such as *Δαπαρας*, *Κολιαμορας*, *Οσβαρας*, *Ονδαρας*, *Παρταρας*, *Σαταρας*.⁷

From the preceding it is clear that the tang when read phonetically has only the syllabic value *ra* [or *r(a)* in closed syllables]. Hittite *r* certainly never weakens to *y* as I thought formerly (HH, I, 13) from the comparison of similar words with and without the tang;⁸ nor can Forrer's explanation of the tang (HB, p. 27) as *ɔ* (from *r*) possibly be correct. And Hrozný's statement (IHH, p. 101) that "l'épine désigne la longueur d'une voyelle, plus rarement un *r* qui suit (rarement précède?) une voyelle,"⁹ seems to me phonetically out of the question.

Thus far we have been treading on safe ground. But there are still two questions in connection with the use of the phonetic tang which I must not fail to mention here. Up to now it has been customary, when the tang was found attached to a phonetic sign, to read first the sign to which the tang was attached and then the tang itself. Thus, for instance, all Hittite scholars have been reading the geographical name in A 6:2 in the order *X^c-me-ī+ra^{city}*. Similarly, they would

¹ Götze, *Madduwattaš* (Leipzig, 1928), p. 174.

² Name of a Hittite king. ⁴ Hrozný, BKS, III, p. 133.

³ Götze, *Muršiliš*, p. 323. ⁵ Weidner, BKS, VIII, 92.

⁶ *Ibid.*, p. 14.

⁷ Sundwall, under each name.

⁸ In most cases, when the tang occurs in unexpected places it is due to faulty copying.

⁹ E.g., Hrozný's *Aēas?* or *Ariās?* (IHH, p. 182) is decidedly less correct than Meriggi's *Ararars*, also imperfectly read (in MVAG, XXXIX, 96). The correct reading is *Araras* (cf. p. 13).

have read the title of *Tata-me-ma-sx*¹ of Topada (see text in OLZ, XXXVII, 145) as *tá-pa-wa+ra-la-sx*. But might it not be possible to read the first name in the order *X^c-me-ra+i^{city}* and to consider *Me-ra* as the full geographical name and *i* as the same suffix which occurs in the same text after the geographic names *Mu-si-i^{city}*, *Mu-se-ka-i^{city}*, and *Lu[?]+ra-i-ha^{city}*? Might it not be permissible also to read the title of the ruler of Topada as *ta-pa-ra+wa-la-sx* and to compare it with Hittite cuneiform *taparijallaš*? These two examples alone are not sufficient to justify the formulation of a rule to the effect that when a tang is attached to a phonetic sign the tang may be read before the sign itself. It may be well, however, to keep this possibility in mind. It has already been suggested by Hrozný (quoted above).

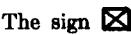
The other question concerns such cases as the interchange of *ka+x+ra-i* (Assur f Ru 28) with *ka-x+ra-e+ra-na* (Assur g Ro 6) or *X-rx+ra-ta-i-wa* (Assur e Ru 24 f.) with *X^c-rx+ra-e+ra-i* (Assur e Ru 4 f.). In the second and fourth forms the combination *e+ra* (pronounced *ra*) seems superfluous. Is it inserted as a phonetic aid to show that the tang attached to the preceding sign has the full syllabic value *ra*, not simply the consonantal value *r(a)*?

?:? rx

The value *la*, proposed for this sign by Hrozný (IHH, pp. 207 ff. and 305 f.), or *l²*, as Meriggi calls it (in MVAG, XXXIX, 3 and 9), seems based on insufficient proof. For example, the interchange of *X-x+ra-nú-wa-tu* (A 15a:2 and 3) with *X^c-y-nú-wa-ha* (M XXIII A:2) proves, in my opinion, only that the sign in question, *y* in M XXIII A:2, corresponds to the *ra* of A 15a:2 and 3.

The value *rx* proposed by me is based on comparison of *Ni-rx-ma-sa^{land}* in M IV A:3 with Assyrian **Ni-ra-ma-a-a*,² the name of a city located in northern Mesopotamia if we may judge from the mention of the land **Si-me-e* in the next line of the same business document.

Meriggi (in MVAG, XXXIX, 11 f. and 153), believing the ideogram

¹ The sign  is used syllabically at Topada only, with the value *sx*. See Bossert in AOF, VIII, 303, n. *, and Hrozný, IHH, p. 294, n. 15.

² Johns, ADD, II, 806:1. The ethnic ending *-a-a* of this name recurs in the same document in **Lib-ála-a-a* (l. 4), **Ub-bu-u-na-a-a* (bottom edge 1), and **Kal-þa-a-a* (rev. 10).

in the sign group  (Assur b Vu 15 f.) to be that for "swine" and comparing it with Indo-European words for "swine," read the whole group as ^s SCHWEIN su-wa-na-i-ja-wa, giving the first sign after the ideogram the phonetic value *su*. Hrozný (IHH, p. 129) recognized in the ideogram the picture of a dog and by Indo-European etymology derived the value *ku* for the first sign after the ideogram. That Hrozný was right in interpreting the ideogram as "dog" can be seen not only from its depiction in the Assur lead strips, but also from the occurrence in A 6:9 of a complete figure of a dog followed by the phonetic signs *-ni-a-i*. But in my opinion the first sign after the ideogram in the Assur lead strips is a compound sign, *wa+rx*, and the whole word for "dog" in Hittite hieroglyphs should therefore be read as *warxwani-*. This is corroborated by the occurrence in A 15b**;4 of the city name *Wa+rx(ra)-wa-ni-ta^{city}*, comparable with Hittite cuneiform ^aRawanna in the neighborhood of Išuwa;¹ note also the equation of the Hittite hieroglyphic personal name *Wa+rx-wa-ne-a-sa* in A 4a:2² with the Hittite cuneiform ^mUrawanni- in KBo, V, 6 i 32, and ^mAriwana in BKS, VIII, 14:43.

 *ru*

The value *ru* of this sign was proved convincingly by Bossert (ŠuK, p. 73) on the basis of its occurrence in the personal name *Hal-parutās*. Its presence at the beginning of the divine name ^d*Ru-ta-ã-a-si* and similar forms³ does not prove the existence of words beginning with consonantal *r* in the Hittite hieroglyphs.⁴ There can be hardly any doubt, in view of Indo-European etymology,⁵ that the name ^d*Ru-ta-ã-a-si* begins with an *r* and has to be pronounced ^dArutās or ^dErutās. It is sufficient to mention *eruta^{2c}(e-ru-la)-* and its variants

¹ Weidner, BKS, VIII, 4:11 and 5:20, and Götze, *Muršiliš*, pp. 79 f. Is ^aUrauna near ^aKummanni (KUB, VI, 45 i 61 [= 46 ii 26]) identical with ^aArawanna? Cf. also ^aAraunn[a] in KBo, VI, 28:10 (discussed by Götze, *Kleinasiens zur Hethiterzeit* [Heidelberg, 1924], p. 12), and classical *Αρανην* (discussed by Bossert in AOF, VIII, 142, n. 7).

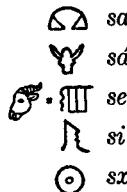
² Cf. also *Wa+rx-wa-ni-i* in M XXXI c:2 and my Fig. 1.

³ Occurrences given by Meriggi in MVAG, XXXIX, 149.

⁴ Thus already in HH, I, 20 f. and 75.

⁵ Cf. E. Boisacq, *Dictionnaire étymologique de la langue grecque* (Heidelberg and Paris, 1916), pp. 714-16.

in the Assur lead strips,¹ the personal name *Apoūt̄ηs* from Asia Minor,² and the river name Orontes.³ The sign *ru* occurs also in *Ma-ru-ta-ka-sa* (Fig. 2, line 1), directly following the personal name *Ḫuha(ha)-tata+me-ma-sa*.⁴ Strange as it may seem to find a Babylonian god mentioned among the people of the Hittite hieroglyphs, the exact correspondence of Hittite Marukas with Babylonian Marduk,⁵ biblical Merodakh (< *Marudak), cannot be called a mere coincidence.⁶



Because of their frequent occurrence as case endings, most of the *s* signs have been from the very beginning of Hittite hieroglyphic decipherment easily recognizable as far as their consonantal element is concerned. Strange to say, for this same reason the distinction of their individual vowels presents even today one of our greatest difficulties.⁷ Of all the *s* signs, the *sa* sign is the most common and its value the most certain. Its value *sa* is substantiated by the very fact that it is the most common, for, as far as I can see, in the case of all the other consonants the signs that include *a* always predominate. This value would be proved absolutely if it were certain that the words "house"-*sa* *sa-li-ā* (M XVI A:1 and II M XLVII) actually mean "great"⁸

¹ See Hrozný, IHH, pp. 55 f., 126, and 311.

² Sundwall, p. 54.

³ It would be worth while to study the distribution of names based on the roots **rund*, **turs* (HH, I, 10 f.), **balp* (HH, I, 21), and **sangar*. Such names are found in Asia Minor, Syria, and Mesopotamia.

⁴ Cf. Hittite cuneiform *Ḫu-u-ha-šar-pa-aš* (see p. 14).

⁵ The name of Marduk is probably a development out of Sumerian (A)MAR-UTU-K, "child of the sun." Cf. also H. Zimmern, "Marduk, das Götter-Sonnen-kind," ZA, XXXV (1924), 239, and A. Poebel in AJSL, LI (1935), 171 f.

⁶ The existence of another Semitic divinity, Baqtat (cf. p. 16), in the Hittite hieroglyphic inscriptions was proved by Hrozný, IHH, p. 26, n. 1.

⁷ The large number of *s* signs (cf. also pp. 31 f.) suggests that some of them may express related sounds such as *ts* (German *z*).

⁸ Cf. Hittite cuneiform *šalliš*, "great."

house," "palace," and that the personal name *Sa-ru-wa-ni-si* (II M LIII) corresponds to ^m*Sa-a-ri-u-ni*¹ of the Assyrian contracts.²

The vowels of the other signs must still be considered doubtful. I read the second sign provisionally as *sá*³ because of its occurrence in the personal name ⁿ*Sá-ka-e+ra-sa* (A 7h) = Assyrian Sangara (cf. p. 13). Also purely provisional are the values *se* and *si* for the third and fourth signs respectively. The value *sx* for the fifth sign was easily deduced from comparison of the case endings in ^{bowl}*Se-x+ra-ka-wa-ne-na*^{city} ^d*Tarhu-í-na* (A 1a:1) with those in ^{bowl}*Se-x+ra-ka-wa-ne-sx*^{city} ^d*Tarhu-í-sa* (A 1a:6).⁴

Of hand hieroglyphs there are two, apart from the well known signs with the values *na*, *pi*, and *ti?*, which should be discussed here: the sign , cursive , which is used mostly in ideograms denoting relationship, such as "son," "grandson"; and the fist sign . The *y* sign occurs in personal names from Malatya and Darende⁵ in the form of *y-me-li*, which was read as *Sulu-me-li* by Hrozný (IHH, p. 53) and compared with Assyrian Sulimal. Hrozný obtained for *y* the reading *sulu<sunu* by identifying *y* with *x* and reading the word for "son," *x-na-s*, as *sunas* on the basis of comparison with Indo-European **sunu-*. Meriggi, however, called attention to the fact that *x* is not regularly interchangeable with *y*, even though an occasional exception occurs, as in A 2:1, where *y*, the fist sign, is used in the ideogram for "son."⁶ Therefore there is no reason for reading the

¹ Johns, ADD, I, 618:10.

² The only reading besides *sa* which could be taken into consideration is *su*, provided the three personal names discussed by Hrozný, IHH, p. 20, actually contain the divine name Tešup. But it should also be borne in mind that Tešup is called Teišbaš in the Chaldaic inscriptions and Tišpak in the Babylonian. Therefore I do not subscribe to the value *su* for this sign, even though additional substantiation might be provided by a possible connection between Hittite hieroglyphic *Ta-ka-sx-la-sa* in the lead strips from Assur and Hittite cuneiform *taksul*.

³ Syllables accented in my transliterations of Hittite hieroglyphs are to be considered phonetically similar to, but not identical with, the corresponding unaccented syllables.

⁴ Thus also Meriggi in MVAG, XXXIX, 3 f., correcting his previous statement in OLZ, XXXVI, 78, and giving additional proofs for this reading.

⁵ Designated in the following as *x*.

⁶ Designated in the following as *y*.

⁷ Occurrences in MVAG, XXXIX, 112.

⁸ *Indogermanische Forschungen*, LII, 48.

ideogram *x* used in writing "son," "child," as *suna*. Moreover, the word "child"-*ni-mu-wa-i-sa* (*passim*) has nothing in common with "child"-*ni-sa*,¹ because in the first case the full phonetic rendering of the ideogram for "son" is given. Cf. *ni-mu-wa-i* in connection with another expression for relationship, *ha-ma-sá*, in CE V:2 and 3. That *x* has a syllabic value also is apparent from its occurrence in such forms as *x-x-la* (II M XLVIII:3), *x-x-sá* (Assur a Vo 10, b Vo 7, d Vo 10), *x-x-nú* (Assur f Vo 30), and *x-x-a-tx* (RHA, II, Pl. 12:1).

Still another hand sign,  (called *z* here), which may have a syllabic value occurs in an inscription found in the neighborhood of Darende. Line 4 of this inscription after my own copy has *z-tu-ma-ni-a-na*^{city}, which could be compared with LÚ ^oŠu-tu-um-ma-na-aš of the Boğazköy texts.² This would indicate for *z* the value *su*. But the form of this sign is not clear. If its upper curvature is disregarded and considered as a purely accidental scratch on the stone, then this sign appears quite similar to that used in the ideogram for "son" in line 2 of the same inscription.

	<i>ta</i>
	<i>tx</i>
	<i>tx</i>
	<i>ti?</i>
	<i>tu</i>

Determination of the vowels of the *t* signs, even though not so difficult as in the case of the *s* signs, still presents many problems. My former reading *pa* for the first sign must be rejected. That it is *ta* is proved beyond any doubt by its occurrence in the name *Hal-parutás* (cf. ŠK, p. 66) as well as in such names as ⁴*Pa-ha-la-ta-se* (p. 16), ⁴*Ma-ru-ta-ka-sa* (p. 30), *E+ra-nu-wa-la* (p. 12), *Tu-wa-ta* (p. 36), *Na-hi-ta-* (p. 17), and ^{litus}*Pa-na-mu-wa-ta-sa* (p. 22). The fact that it is the most common *t* sign offers further justification for our calling it *ta*. Meriggi (in MVAG, XXXIX, 3) reads the first four signs as *da*, *ta*, *tá*, and *td* respectively; Hrozný (IHH, pp. 113 f.)

¹ As accepted by Hrozný, IHH, p. 53.

² BoTU, 21 ii 6 = KBO, III, 60 ii 6. The city Šuta lies in northern Mesopotamia (Weidner, BKS, VIII, 9, n. 4).

reads the first sign as *tā*, *da*, *tē?*, the second as *ta*, the third as *tā*, and the fourth as *ta₂* and *t?*.¹ But my disbelief in homophony (cf. p. viii) prevents my ascribing the value *ta* to any sign except the first.

The value *ta* for the second sign was deduced from its occurrence in *Mu-wa-tx-li-* and has been generally accepted (see Meriggi in OLZ, XXXVI, 79). I shall be called a heretic for raising any objection against so firmly established a reading. Still, the existence of the *ta* sign discussed in the preceding paragraph prevents my accepting the value *ta* for this sign. I consider it wiser to call it *tx* and let the future decide the exact character of its vowel.

The third *t* sign, since it is commonly interchangeable with the second, may be called *tx*.

That the fourth sign contains *t* was recognized by Hrozný (IHH, p. 61), who reads it as *ta₂*. Meriggi (MVAG, XXXIX, 6), following Hrozný, calls it *tā*. I read this sign provisionally as *ti?*, suggested by comparison of hieroglyphic *huha(ba)-ti?-li-sa* (A 11b:1) with Hittite cuneiform *huḥantiš*, each term denoting a remote male ancestor. Then, too, possibly the three very carelessly written signs on the edge of a cuneiform tablet from Bogazköy (KUB, VII, 1) may read *Ha-ti* "prince."²

The value *tu* for the fifth sign is proved by its occurrence in the following proper names: *Tu-wa-na-* (p. 24), *A-ma-tu-* (p. 12), ⁴*Hi-pa-tu* (p. 17), ⁴*Ha-pa-tu* (p. 16), and *Tu-wa-ta* (p. 36).

The sign |||, read by Meriggi (in MVAG, XXXIX, 5) as *tar*, I consider to represent *tra(ra)*. The three strokes express the ideogram for "three," in Hittite hieroglyphic *tra*, and the tang is the phonetic complement *ra*.³

 wa

This is the most common sign in Hittite hieroglyphic writing. Its value *wa*, as recognized by Forrer (HB, p. 20), Bossert (ŠuK, p. 27), Meriggi (OLZ, XXXVI, 83), and Hrozný (IHH, p. 116), is cer-

¹ Hrozný calls a fifth sign *ta₁* (IHH, p. 113), a sixth *ta₂?* (*ibid.*, p. 183), a seventh (the fist) *ta₃?* (*ibid.*, p. 161, n. 2, and p. 235, n. 5), and an eighth *ta₄?* (*ibid.*, p. 267, n. 4).

² Cf. ¹⁷*Ha-ti LUGAL-iš* in Götze, *Verstreute Bogazkōi-Texte* (Marburg, 1930), 87:5.

³ On such purely phonetic use of an ideogram cf. p. 13.

tain. The sign occurs in the following identified proper names: *Tu-wa-na-* (p. 23), *Wa+ra-pa-la-wa-* (p. 6), *Mu-wa-tx-li-* (p. 6), *E+ra-nu-wa-ta* (p. 12), ^{litus}*Pa-na-mu-wa-ta-sa* (p. 22), and *Tu-wa-ta* (p. 36).



Three scholars—Forrer, Hrozný, and Meriggi—have written on the phonetic value of this sign. Forrer (HB, p. 30) reads it as *zi*. He bases his reading on an allegedly bilingual text, the cuneiform part of which does not correspond to the Hittite hieroglyphic part (cf. p. 35). Hrozný (IHH, p. 85) reads the sign as *mé*. He bases his reading on the comparison of *me-ā-ta-e trawana^{xc}(na)-ta* (A 11a:3) with *x-ā-ta-e trawane^{xc}(wa-ne)-ta* (A 11a:2), identifying the sign *x* with our sign *wi* and reading it *mé* by comparison with the parallel *me*. But the traces of the doubtful sign *x* on the photograph in A 8b:2 clearly show four lines, and there is hardly any doubt that that sign is actually *me*. The copy in A 11a:2 should be corrected from this photograph. Meriggi (in MVAG, XXXIX, 2 f.), for reasons unknown to me, suggests the possibility that the sign may be *(w)i*.²

Entirely independently of Meriggi I have arrived at the value *wi* for this sign by observing the interchange of such identical forms as *²a-wi-sá-na* (OLZ, XXXVII, 147:6), *²a-pa-sá-na* (*ibid.*, 1. 8), *²a-pa-sa-na* (*loc. cit.*), and *e-pa-sa-ha* (*loc. cit.*) with *²a-pa-sá-na* (A 6:9) and *²a-pi-sá-na* (M VI:2). In this word *wi* and *pi* interchange with *pa*. I found further proof for my reading *wi* in the geographical name *Tx-la-*



³city from Karga.³ Although I could not prove the identity of that city with ⁴Talawa of Hittite cuneiform inscriptions,⁴ I felt inclined to

¹ Because of the rarity of this syllabic sign in the Carchemish inscriptions (cf. A 6:7) I was unable in my earlier work to determine its phonetic value and therefore omitted it from the list of phonetic signs in the frontispiece of HH, I.

² He has promised to discuss this value in his forthcoming article on the lead strips from Assur.

³ See H. H. von der Osten, *Explorations in Hittite Asia Minor, 1927-28* (OIC, No. 6 [1929]), Fig. 160.

⁴ Götze, *Madduwattaš*, pp. 16 f.

assume that the *x* of *Tx-la-x* should be either *wa* or *wi*. My assumption gained support immediately from the form of *x* in the Karga inscription. It clearly represents three jars bound together, from each of which protrudes a drinking-straw. This ideogram suggests a beverage;¹ and, since viticulture is common in Asia Minor and wine is called *wi-* in Hittite cuneiform, it was no longer difficult to deduce the phonetic value *wi-* for the sign *x* of *Tx-la-x*. This elaborate sign in the geographical name from Karga is evidently the original form of , to which it was simplified in the course of time.

Reading the signs as suggested in the preceding, Forrer's seal bears the hieroglyphic legend *Wi-la* and the cuneiform legend *Zi-ti*. Since the rendering of all four signs is now definite, it is clear that the inscription is not bilingual. Can it be that the name is written half in cuneiform and half in hieroglyphic and that *Zi-ti-wi-la* should be compared with ^m*Zi-it-wa-al-la* or ^m*Zi-it-wa-al-li* of Hittite cuneiform sources?² I can find no parallel for such a method of writing.

The sign *wi* occurs also in a geographical name from Topada, *Pa+ra-wi-tx-*,³ which probably corresponds to Barea of later periods.⁴



The interchange of the personal name *Wa-lu?-tata+me-ma-sa* from Sultan Han with *x-lu?-tata+me-ma-sx* from Topada⁵ proves that the sign *x* must have a value similar to that of *wa*.⁶ The same conclusion

¹ Cf. the very similar Egyptian forms depicting wine-jars in *Mitteilungen des Deutschen Instituts für ägyptische Altertumskunde in Kairo*, V (1934), 52 ff. Pictures of people sucking liquids through straws are shown in an article by W. Spiegelberg and A. Erman, "Grabstein eines syrischen Söldners aus Tell Amarna," *Zeitschrift für ägyptische Sprache*, XXXVI (1898), 126–29. I am indebted to Dr. Edith W. Ware of the Oriental Institute for both Egyptian references.

² KUB, III, 34 rev. 2 and 6.

³ See Meriggi in MVAG, XXXIX, 144.

⁴ See Ramsay, *The Historical Geography of Asia Minor*, pp. 216 f.

⁵ References given by Meriggi in MVAG, XXXIX, 120 f. and 170. Cf. also the writing *Wd-lu?-tata+me-ma-sx* with the sign *wá*, which has only local importance, in an inscription from Kayseri.

⁶ Cf. also Hrozný, IHH, pp. 268 f. and 294 f.

may be drawn from a comparison of the personal name *Tu-wa-ta*¹ from Malatya (CE XXII) with *Tu-x-ta-sx* from Topada (l. 1).² Therefore the sign *x* should be either *we* or *wu*.³

¹ The text was collated by myself.

² The personal name Tuwata from Malatya is attached to a relief of a female figure. From Chaldaic inscriptions we know of a man called "Tuate(hini), whom Sayce in JRAS, 1882, p. 403, considered the father of Hilaruada, king of Malatya. Professor C. F. Lehmann-Haupt, to whom I am indebted for a note on the Malatyan kings mentioned in the Chaldaic inscriptions, thinks there is no reason to consider "Tuate a Malatyan king.

³ Bossert (in *Forschungen und Fortschritte*, IX [1933], 19) gives this sign the value *ha* because of its occurrence in a personal name which he reads *Ha-tu-ši-li*, and his interpretation has been partially accepted by Meriggi (in OLZ, XXXVI, 82) and Hrozný (IHH, pp. 103 and 268). But on the basis of the latest finds in Bogazköy, some half-dozen royal names written in hieroglyphs can safely be read, and not one of these can be identified sign by sign with any of the known names of New Hittite emperors, such as Šuppiluliuma, Tuthalia, Mursili, and Hattušili. Hence it seems probable that the New Hittite rulers bore double names—that the names Šuppiluliuma, Tuthalia, etc. were used in cuneiform, but others were used in hieroglyphic writing. Such bearing of double names became prevalent in the Near East with the advent of Hellenistic culture.

INDEX

NAMES DISCUSSED

GEOGRAPHIC		PERSONAL	
Alpa- (Halpa), 15		Tarbunt-, 19	
Amatu-, 12, 15, 22		Warame-, 26	
Halpa- (Alpa), 25		Aāme, 12	
Hamu-, 16		Arara-, 13, 27	
Harana-, 7, 16, 23, 26		Arnuwā-, 12	
Hati, 33		Asstaruwa-, 15-16, 20	
Karkame-, 8, 19, 22		Astuwaki(?)ma-, 7, 15, 20	
Ke(?)trama, 21-22		Ernuwata (Arnuwā-), 12, 25, 32, 34	
Kurkuma-, 8, 21-22		Halparutā-, 9, 12	
Mera- (Merae), 28		Kaka-, 7	
Merae (Mera-), 14, 22, 26		Kukulana, 6, 8, 21, 23	
Musi-, 22		Kupapa-sarpa-, 13-14	
Muska-, 8, 19, 22		Manapatata, 22-23, 25	
Nañita-, 17, 23, 32		Muwatxli-, 6, 21-22, 33-34	
Niri(?)ma-, 22, 24, 28		Panamuwata-, 8-9, 22-23, 25, 32, 34	
Parwitx-, * 35		Pihame, 16, 22, 25	
Sekura-, 8, 21		Pisamtx-, 25	
Sexraka-, 31		Pu(?)tu-hepa, 16	
Su(?)tumani-, 7, 32		Sakara-, 8, 12-13, 19, 31	
Tuwana-, 16, 23, 24, 33-34		Saruwani-, 24, 31	
Txlawi, 35		Sulumeli, 21-22, 31	
Warx-, 29		Takesxla-, 31	
DIVINE		Tarhunt-, 19	
Erutā-, 29		Tarkime(?), 20	
Hapatu (Hipatu), 16, 25, 33		Tatamema-, 28	
Hipatu (Hapatu), 17, 25, 33		Tuwata, 32-34, 36	
Karhuha-, 18		Urhilina-, 7, 14, 17, 21, 23	
Kupapa-, 8, 21, 25		Walu(?)tatamema-, 35	
Marutaka-, 8-9, 19, 22, 30, 32		Warpalawa-, 6, 21, 25, 34	
Nikarawa- (Nikaruha-), 16		Warxwani-, 7, 29	
Pahlata-, 9, 16, 21, 25, 32		Wila-, 11, 35	
		Zitiwila(?), 35	

WORDS DISCUSSED

WORD	MEANING	PAGE	WORD	MEANING	PAGE
aja-.....	to make.....	14	nimuwat-.....	son.....	32
arnu-.....		12	piātu.....	may they give.....	12, 25
bipara-.....	captive.....	7, 17, 25, 27	sali-.....	great.....	7, 30
huha-.....	grandfather.....	7, 18	umeni-.....	city.....	24
hubati(?)li-.....	.....	33	wani-.....	tomb.....	10-11
ja-.....	this.....	23	warpali-.....	strong.....	6, 21

* The "x" means an unknown vowel in each case except Sexraka-, where it stands for an unknown syllable (consonant plus vowel).

THE ORIENTAL INSTITUTE
of
THE UNIVERSITY OF CHICAGO

STUDIES IN ANCIENT ORIENTAL
CIVILIZATION

JOHN A. WILSON *and* T. GEORGE ALLEN
Editors

ELIZABETH B. HAUSER *and* RUTH S. BROOKENS
Assistant Editors

HITTITE HIEROGLYPHS
III

THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS

*

THE BAKER & TAYLOR COMPANY
NEW YORK

THE CAMBRIDGE UNIVERSITY PRESS
LONDON

	a	e	i	u
Vowels	॥ a ॥ ^o a	ঁ e	ঁ i	ঁ u
Nasals	ঁ	ঁ	ঁ	
ঁ	ঁ	ঁ	ঁ	ঁ
ঁ	ঁ ia	ঁ ia		
k/g	ঁ	ঁ	ঁ	ঁ
l	ঁ	ঁ	ঁ	ঁ
m	ঁ	ঁ	ঁ	ঁ
n	ঁ	ঁ	ঁ	ঁ nu ঁ
p/b	ঁ		ঁ	ঁ
r	ঁ		ঁ	ঁ
s	ঁ	ঁ	ঁ	ঁ
ঁ	ঁ		ঁ	ঁ
t/d	ঁ	ঁ	ঁ	ঁ
w	ঁ	ঁ	ঁ	
z (=ts)	ঁ	ঁ	ঁ	ঁ
Syllables of unknown value				
	ঁ	ঁ	ঁ	ঁ

THE ORIENTAL INSTITUTE *of* THE UNIVERSITY OF CHICAGO
STUDIES IN ANCIENT ORIENTAL CIVILIZATION, NO. 21

HITTITE HIEROGLYPHS

III

By
IGNACE J. GELB



THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS

COPYRIGHT 1942 BY THE UNIVERSITY OF CHICAGO
ALL RIGHTS RESERVED. PUBLISHED OCTOBER 1942

*

COMPOSED AND PRINTED BY THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS, U.S.A.

PREFACE

Hittite Hieroglyphs III is intended to complement my *Elements of Hieroglyphic Hittite*, which is now in preparation. Appearing in the latter are many new readings and interpretations which could not be fully substantiated in a volume designed for the general public. In fulfilment of my obligations, the scientific proofs for the new ideas expressed there are offered in the present volume.

This volume is devoted to the treatment of the writing and to the discussion of certain grammatical problems. On pages 26–29 is offered what I hope may prove to be the final and correct interpretation of the infamous Tarkondemos seal. In the résumé on pages 38–40 are gathered the main findings on the evaluation of the character of the syllabary as a whole and on the reading of individual signs. It is perhaps important to mention here the discovery of syllables containing the consonants *s* (pp. 15–22) and *z* (pp. 22–31). The readings of all syllabic signs are given in approximately the same form as presented in the course on the Hittite hieroglyphs given by myself at the University of Chicago in the winter quarter of 1938.

This study represents the third instalment of my work on the decipherment of the Hittite hieroglyphic writing, but in addition it offers the first serious attempt at systematization of the whole syllabary. I believe the time has come for all scholars working in this field to take a definite stand in relation to the main principles of Hittite hieroglyphic writing and accordingly to revise drastically their readings of individual signs.

To Professor Julian H. Bonfante of Princeton University are due my heartiest thanks and gratitude for his generous and ever ready help in matters pertaining to Indo-European etymology. Dr. T. George Allen and Mrs. Erna S. Hallock of the Oriental Institute have helped greatly in editorial problems. The hieroglyphs have been drawn by Dr. Laurence Lee Howe.

IGNACE J. GELB

TABLE OF CONTENTS

	PAGE
SYMBOLS	xi
BIBLIOGRAPHY	xiii
THE WRITING	1
The Normal Syllabary	1
Signs of Known Value	1
Signs of Unknown or Very Uncertain Value	31
Local Signs	36
“Rebus” Signs	37
Résumé	38
THE GRAMMAR	41
Noun: Declension	41
Pronoun: Relative, Indefinite, etc.	54
Previous Readings of Signs	55
New Readings of Signs	59
Roots and Accidence	66
INDEX	71

SYMBOLS

Transliterations are given in italics. Proper nouns and proper adjectives are capitalized. Phonetic signs unread are, however, rendered regularly by lower-case *x*, *y*, etc., even when initial. Ideograms are given in small capitals. If the object represented by an ideogram seems evident, the name of the object is used, even though a meaning also may be known. When neither object nor meaning seems clear, *x* serves unless the actual sign is required. When an ideogram or a "rebus" sign (see p. 37) is transliterated by its phonetic value, italics are used; any phonetic complements then follow in parentheses. Otherwise the phonetic complements, if added in full, are separated from the corresponding ideographic symbols by a space (or by an ideogram mark if present). Partial phonetic complements are attached to their ideographic symbols by hyphens.

Common determinatives are indicated by small superior roman letters as follows:

^c	city	^m	masc. name (cuneiform)
^d	deity	ⁿ	personal name
^l	land, country		

The English terms for other determinatives, and even for "city" and "land" when following a name, are spelled in full.

Parentheses are used as above noted and also to mark unpronounced vowels or even consonants (cf. ^d*Kar(k)-bu-ba-ta-a*, p. 43) and to set off enclitics not concerned in a given discussion (e.g. *-ba*, "and," on p. 3).

Other symbols are:

[]	wholly lost	*	hypothetical form
' ^	partially lost	/	alternative or variant reading
< >	omitted by scribe	+	ligature

BIBLIOGRAPHY

[Continued from Parts I and II]

I. TEXTS¹

[Arranged chronologically]

PETRIE, Sir W. M. FLINDERS. Beth-pelet I (British School of Archaeology in Egypt, Vol. XLVIII [London, 1930]) Pl. XXXVI center, near top = MACDONALD, E., STARKEY, J. L., and HARDING, H. Beth-pelet II (British School of Archaeology in Egypt, Vol. LII [London, 1932]) Pl. LXXIII 58 and 65. (Two silver rings.)

DELAPORTE, L. Quelques monuments récemment découverts, in RHA I, fasc. 5 (1931) pp. 182–84. (Inscriptions from Karakuyu [HJM 34] and Darende [HJM 18].)

SCHAEFFER, CLAUDE F. A. Les fouilles de Minet-el-Beida et de Ras Shamra. Deuxième campagne (printemps 1930), in Syria XII (1931) Pl. IV 3, second seal, and Pl. XIII 1, seal in center.

CANDAR, A. AVNI ALI. Ankaranan Nevşehir . . . (Ankara, 1933). (Plate at end of book shows a bad copy of the Karapınar inscription [HJM 36].)

HROZNÝ, B. *See under Studies*.

KEMALEDDIN, KARA MEHMET AĞA ZADE. Erciyes Kayserisi ve tarihine bir bakış (Kayseri, 1934).

OSTEN, H. H. von DER. Ancient oriental seals in the collection of Mr. Edward T. Newell (OIP XXII [1934]) Pls. XXV–XXVI.

SALİM. Develi kazasına Bağlı (Bakırdağ) nahiyesinin (İمامkulu) köyünde bulunan (Şimşek Kayası) adındaki meçhul Eti kitabı hakkında rapor, in Türk tarih, arkeologya ve etnografya dergisi II (1934) 304–6. (HJM 27.)

UNGER, E. Yazılıkayadaki kabartmaların izahı, in Türk tarih, arkeologya ve etnografya dergisi II (1934) 168–80.

BITTEL, K., and GÜTERBOCK, H. G. Boğazköy (Preussische Akademie der Wissenschaften. Abhandlungen, 1935. Philos.-hist. Klasse, No. 1 [Berlin, 1935].)

BOSSELT, H. TH. Zwei hethitische Hieroglyphen-Inschriften aus Erkelet, in AOF X (1935–36) 282–87. (Inscriptions from Erkilet [HJM 20–21] and at Athens.)

DELAPORTE, L. Un bas-relief rupestre à Imamkoulou, in RHA III, fasc. 21 (1935) pp. 163 f. (HJM 27.)

¹ A bibliography of all the Hittite hieroglyphic inscriptions discovered up to 1939, arranged according to their places of origin, was published in the author's HJM pp. 7–21.—The earlier items above supplement the bibliography given in HH II.

GELB, I. J. Hittite hieroglyphs II (SAOC No. 14 [1935]) Figs. 1–2. (Inscriptions from Andaval [HJM 3] and Erkilet [HJM 20].)

GELB, I. J. Inscriptions from Alishar and vicinity (OIP XXVII [1935]) Nos. 65–89.
Review: HROZNÝ, B., in AOr VII (1935) 214 f.

GOLDMAN, HETTY. Preliminary expedition to Cilicia, 1934, and excavations at Gözlü Kule, Tarsus, 1935, in AJA XXXIX (1935) 535 f.

JACOBSEN, T., in FRANKFORT, H. Oriental Institute discoveries in Iraq, 1933/34 (Oriental Institute Communications, No. 19 [1935]) pp. 101–3. (Inscription from Hines [HJM 25].)

PROCOPÉ-WALTER, A. Syro-Cappadocian stamp seals in the museum of the Academy of Science, Leningrad, in Ancient Egypt, 1935, pp. 100–107.

BITTEL, K. Vorläufiger Bericht über die Ausgrabungen in Boğazköy 1935, in MDOG No. 74 (1936) pp. 66–75, “Siegel,” by H. G. GÜTERBOCK.

CAVAIGNAC, E. Le problème hittite (Paris, 1936) p. 158 (inscription from Restan [HJM 47]) and Pl. V 12 and Pl. VI 14 (inscriptions from Malatya [latter is HJM 45]).

DELAPORTE, L. Les Hittites (Paris, 1936) p. 293. (Inscription from Malatya.)

DELAPORTE, L. Le relief rupestre d’Irviz, in RHA IV, fascs. 26, 28, 29 (1937) pp. 49–57, 131–47, 201 f., including note by JEAN DENY on pp. 145–47. (HJM 29.)

JACOPI, G. Dalla Paflagonia alla Commagene (Roma, 1936) pp. 16 f. and Figs. 59 f. (Inscription at İmamkulu [HJM 27].)

PRZEWORSKI, S. Notes d’archéologie syrienne et hittite III. Quelques nouveaux monuments de Marash, in Syria XVI (1936) Pl. VIII 1 and Pl. IX.

THUREAU-DANGIN, F., and DUNAND, M. Til-Barsib (Paris, 1936) pp. 134–36 and 140 and Pls. I–VI and VIII.

BITTEL, K. Boğazköy. Die Kleinfunde der Grabungen 1906–1912. I. Funde hethitischer Zeit (Wissenschaftliche Veröffentlichungen der Deutschen Orient-Gesellschaft, No. 60 [1937]).

BITTEL, K. Vorläufiger Bericht über die Ausgrabungen in Boğazköy 1936, in MDOG No. 75 (1937) pp. 52–60, “Die Siegel,” by H. G. GÜTERBOCK.

ELDERKIN, G. W. A Christian stele from Cappadocia, in AJA XLI (1937) 97–99. (Inscription from Eğrek.)

FORRER, E. O. Note sur un cylindre babylonien et un cachet hittite de Ras Shamra, in Syria XVIII (1937) 156–58.

GARSTANG, J. Explorations in Cilicia. The Neilson Expedition: preliminary report, in AAA XXIV (1937) 64–66. (Inscription at Sirkeli [HJM 48].)

GARSTANG, J. The first imperial Hittite sculpture found south of the Taurus Range, in Illustrated London News, July 31, 1937, pp. 210 f. (Inscription at Sirkeli [HJM 48].)

GOLDMAN, HETTY. Excavations at Gözlü Kule, Tarsus, 1936, in AJA XLI (1937) 263 f., 271, 280 f.

BIBLIOGRAPHY

xv

GÜTERBOCK, H. G. Bemerkungen zu der hethitischen Hieroglypheninschrift von Sirkeli, *in AAA* XXIV (1937) 66–68. (HJM 48.)

GÜTERBOCK, H. G. Ein hethitisches Siegel aus der Gegend von Alaca Höyük, *in Türk tarih kurumu. Belleten* I (1937) 503 f.

HILL, DOROTHY KENT. The rediscovered seal of Tarqumuwa, king of Mera, *in AOr* IX (1937) 307–10.

MC EWAN, C. W. The Syrian Expedition of the Oriental Institute of the University of Chicago, *in AJA* XLI (1937) 13 and 16.

OSTEN, H. H. von DER. The Alishar Hüyük, seasons of 1930–32, II (OIP XXIX [1937]) 223, 227, 410, 414, 418, and Pl. XXV. (Seals, seal impressions, and signs on potsherds.)

BITTEL, K., and OTTEN, H. Vorläufiger Bericht über die Ergebnisse der Ausgrabungen in Boğazköy im Jahre 1937, *in MDOG* No. 76 (1938) pp. 18 and 47.

CONTENAU, G. Monuments mésopotamiens nouvellement acquis ou peu connus (Musée du Louvre). XXV. Bas-reliefs hittites, *in Revue des arts asiatiques* XII (1938) 37 f. and Pl. XXIV b. (Inscribed relief of unknown origin.)

GOLDMAN, HETTY. Excavations at Gözlu Kule, Tarsus, 1937, *in AJA* XLII (1938) 36–39.

BARNETT, R. D. Notes on inscribed Hittite objects from Atchana, *in Antiquaries Journal* XIX (1939) 33–35.

GELB, I. J. Hittite hieroglyphic monuments (OIP XLV [1939]).

GORDON, CYRUS H. Western Asiatic seals in the Walters Art Gallery, *in Iraq* VI (1939) Nos. 69–72.

GÜTERBOCK, H. G. Un cachet hittite de Çorca, *in RHA* V, fasc. 35 (1939) pp. 91 f.

HROZNÝ, B. L’Inscription “hittite”-hiéroglyphique d’Apamée, *in Syria* XX (1939) 134 f.

WOOLLEY, C. L. Excavations at Atchana-Alalakh, 1938, *in Antiquaries Journal* XIX (1939) Pl. XIII.

YALGIN, ALİ RİZA, *in Cenupta Türkmen Oynaları*, Kısım V (Adana, 1939) unnumbered pl. (Stela from Çağdır; reference from Archäologischer Anzeiger, 1940, col. 566.)

YALGIN, ALİ RİZA. Gezbelinde bulunan anıt hakkında rapor, *in Türk tarih, arkeoloji ve etnografya dergisi* IV (1940). Photograph first published in the Turkish daily *Ulus* (Ankara), October 12, 1939.

BITTEL, KURT, and SCHNEIDER, ALFONS M. Archäologische Funde aus der Türkei im Jahre 1939, *in Archäologischer Anzeiger*, Beiblatt zum Jahrbuch des Deutschen Archäologischen Instituts, 1940, cols. 560–67. (Rock inscription at Hanyeri and stela from Çağdır.)

GOLDMAN, HETTY. Excavations at Gözlu Kule, Tarsus, 1938, *in AJA* XLIV (1940) 75 f. and 82 f.

GÜTERBOCK, H. G. Siegel aus Bogazköy. Erster Teil. Die Königssiegel der Grabungen bis 1938 (AOF, Beiheft 5 [Berlin, 1940]).

INGHOLT, HARALD. Rapport préliminaire sur sept campagnes de fouilles à Hama en Syrie (1932-1938) (Kgl. Danske videnskabernes Selskab, Archaeologisk-kunsthistoriske Meddelelser III 1 [København, 1940]) pp. 74, 101 f., 115 and Pls. XXIII 3 and XXXIII 1-2.

KOŞAY, HAMİT Z. Les fouilles d'Alacahöyük, entreprises par la Société d'Histoire Turque. Travaux exécutés en 1940 ... , *in* Türk tarih kurumu. Belleten V (1941) Pl. XI and pp. 13 and 15 f. (Seal and seal impression.)

II. STUDIES

[Arranged by authors]

CAVAIGNAC, E. Hittite hiéroglyphique, *in* RHA III, fasc. 20 (1935) pp. 130-35.

CAVAIGNAC, E. La date du roi Panamuvas, *in* RHA III, fasc. 21 (1935) pp. 153-56.

CAVAIGNAC, E. Le problème hittite (Paris, 1936) pp. 154-70.

DELAPORTE, L. Review of Meriggi's Die längsten Bauinschriften . . . (MVAG XXXIX 1 [1934]), *in* Revue d'assyriologie XXXII (1935) 116.

DEMANGEL, R. Autour d'un hiéroglyphe hittite, *in* Bulletin de correspondance hellénique LXII (1938) 180-93. (The "god" sign.)

FRIEDRICH, J. Das Siegel des hethitischen Königs Hattušili III. nach der ägyptischen Fassung seines Vertrages mit Ramses II., *in* Artibus Asiae VI (1936-37) 177-90 and 315.

GELB, I. J. Hittite hieroglyphs II (SAOC No. 14 [1935]).
Reviews: CHRISTIAN, V., *in* WZKM XLIV (1937) 150 f.; DELAPORTE, L., *in* RHA III, fasc. 21 (1935) p. 172; FRIEDRICH, J., *in* Deutsche Literaturzeitung, 1936, cols. 1823-28; HROZNÝ, B., *in* AOr VIII (1936) 373; MERIGGI, P., *in* OLZ XXXIX (1936) 156-59; RYCKMANS, G., *in* Le Muséon XLVIII (1935) 365; ZUNTZ, L., *in* JRAS, 1936, pp. 376-78.

GELB, I. J. Queen Pudu-hepa, *in* AJA XLI (1937) 289-91.

GELB, I. J. The dogs of Nikarawas, *in* AJSL LV (1938) 200-203.

GELB, I. J. Elements of hieroglyphic Hittite (in preparation).

GOETZE, A. Philological remarks on the bilingual bulla from Tarsus, *in* AJA XL (1936) 210-14.

GOETZE, A. Remarks on the epigraphic material found at Tarsus in 1936, *in* AJA XLI (1937) 287.

HROZNÝ, B. Ueber die hethitischen Hieroglyphen (Vooraziatisch-Egyptisch Gezelschap. Rondschrijven No. 16 [Leiden, no date]). (Not available to me.)

HROZNÝ, B. Mon voyage archéologique de 1934 en Asie Mineure et l'état actuel du déchiffrement des inscriptions "hittites"-hiéroglyphiques, *in*

BIBLIOGRAPHY

xvii

Atti del XIX Congresso internazionale degli orientalisti, Roma, 1935 (Roma, 1938) pp. 676–80.

HROZNÝ, B. Review of Meriggi's *Die längsten Bauinschriften . . .* (MVAG XXXIX 1 [1934]), *in IF* LIII (1935) 154–56.

HROZNÝ, B. Les inscriptions hittites hiéroglyphiques. *Essai de déchiffrement* (Monografie archivu orientálního, Vol. I (Praha, 1933—)). Livraison III includes (with some changes) material first published in AOr VII (1935) 6 f., 135–55, 179–90, 488–522; VIII (1936) 1–17, 171–209, 273–89; IX (1937) 217–22.

Reviews of Livraison I (1933): DHORME, E., *in Syria* XIV (1933) 326; GARSTANG, J., *in AAA* XX (1933) 210 f.

Reviews of Livraison II (1934): DELAPORTE, L., *in RHA* III, fasc. 17 (1934) p. 24; MERIGGI, P., *in IF* LIII (1935) 229–31.

Reviews of preprints of Livraison III (1937) from AOr VII–VIII: DELAPORTE, L., *in RHA* III, fascs. 20, 22, 24 (1935–36) pp. 143, 204, 285.

HROZNÝ, B. Sur une inscription "hittite"-hiéroglyphique, *in Mélanges linguistiques offerts à M. Holger Pedersen* (Acta Jutlandica IX 1 [1937]) pp. 500–504.

HROZNÝ, B. O "khettskikh" ieroglifakh na stelakh Tel-Amara, *in Vestnik drevnej istorii* 1(1) (Moskva, 1937) pp. 24–32.

HROZNÝ, B. Inscriptions "hittites" hiéroglyphiques de Nigdeh, Andaval, Erek et Asardjik, *in AOr* IX (1937) 407–16.

HROZNÝ, B. Les lettres "hittites" hiéroglyphiques a-d, écrites sur plomb, *in AOr* X (1938) 35–50.

HROZNÝ, B. Ob odnož interesnoj "khettskoj" ieroglificheskoi nadpisi (Messerschmidt, Corpus inser. Hett., Taf. VIII), *in Vestnik drevnej istorii* 1(2) (Moskva, 1938) pp. 23–29.

HROZNÝ, B. L'Inscription "hittite"-hiéroglyphique Messerschmidt, Corpus inser. Hett. VIII, *in AOr* XI (1939) 1–6.

HROZNÝ, B. On an inscription from Atchana, *in Antiquaries Journal* XIX (1939) 35–37.

HROZNÝ, B. Sur un cachet "hittite"-hiéroglyphique de Ras Shamra, *in Mélanges syriens offerts à Monsieur René Dussaud*. I (Paris, 1939) 55–57.

HROZNÝ, B. O nejstarším stěhování národů a o problému civilisace proto-indické (Praha, 1939). Published also in French and German translations.

MERIGGI, P. La nuova lingua ie. d'Asia Minore: il luvio geroglifico, *in Atti del III Congresso internazionale dei linguisti*, Roma, 1933 (Firenze, 1935) pp. 390–94.

MERIGGI, P. Review of Forrer's *Die hethitische Bilderschrift* (SAOC No. 3 [1932]), *in IF* LIII (1935) 228 f.

MERIGGI, P. Die Bleibriefe in hethitischen Hieroglyphen, *in AOF* X (1935–36) 113–33 and 251–67.

MERIGGI, P. Listes des hiéroglyphes hittites, *in RHA* IV, fascs. 27 and 29 (1937) pp. 69–114 and 157–200.

III. GENERAL WORKS

[Arranged by authors]

FRIEDRICH, J. *Entzifferungsgeschichte der hethitischen Hieroglyphenschrift* (Die Welt als Geschichte, Sonderheft 3 [Stuttgart, 1939]).

FRIEDRICH, J. *Hethitisches Elementarbuch*. 1. Teil. *Kurzgefasste Grammatik* (Indogermanische Bibliothek, 1. Abt., 1. Reihe, 23. Bd. [Heidelberg, 1940]).

STURTEVANT, E. H. *Supplement to A Hittite glossary*, second edition (Linguistic Society of America. Special publication [Philadelphia, 1939]).

IV. ABBREVIATIONS

A British Museum. Carchemish; report on the excavations at Djerabis conducted by C. LEONARD WOOLLEY and T. E. LAWRENCE (2 vols.; London, 1914-21). Plates of series A.

AAA Annals of archaeology and anthropology (Liverpool, 1908—).

AJA American journal of archaeology (Baltimore etc., 1885—).

AJSL American journal of Semitic languages and literatures (Chicago etc., 1884-1941).

AOF Archiv für Orientforschung (Berlin, 1923—).

AOr Archiv orientální. Journal of the Czechoslovak Oriental Institute, Prague (Praha, 1929—).

Assur ANDRAE, WALTER. *Hettitische Inschriften auf Bleistreifen aus Assur* (Wissenschaftliche Veröffentlichungen der Deutschen Orient-Gesellschaft, No. 46 [1924]).

CE Cornell Expedition to Asia Minor and the Assyro-Babylonian Orient Travels and studies in the Nearer East . . . (Ithaca, N.Y., 1911).

EHH GELB, I. J. Elements of hieroglyphic Hittite (in preparation).

HB FORRER, E. O. *Die hethitische Bilderschrift* (SAOC No. 3 [1932]).

HH I-III GELB, I. J. *Hittite hieroglyphs. I-III* (SAOC Nos. 2 [1931], 14 [1935], and 21 [1942; the present volume]).

HHM GELB, I. J. *Hittite hieroglyphic monuments* (OIP XLV [1939]).

IF Indogermanische Forschungen. Zeitschrift für indogermanische Sprach- und Altertumskunde (Strassburg, 1892—).

IHH HROZNÝ, B. *Les inscriptions hittites hiéroglyphiques. Essai de déchiffrement* (Monografie archivu orientálnsho, Vol. I [Praha, 1933—]).

JRAS Royal Asiatic Society of Great Britain and Ireland. Journal (London, 1834—).

KUB Berlin. Staatliche Museen. Vorderasiatische Abteilung. Keilschrifturkunden aus Boghazköi (Berlin, 1921—).

M MESSERSCHMIDT, L. *Corpus inscriptionum Hettiticarum* (MVAG, 5. Jahrg., Nos. 4–5 [1900]).

I M *Op. cit.*, Erster Nachtrag (MVAG, 7. Jahrg., No. 3 [1902]).

II M *Op. cit.*, Zweiter Nachtrag (MVAG, 11. Jahrg., No. 5 [1906]).

MDOG Deutsche Orient-Gesellschaft. *Mitteilungen* (Berlin, 1899—).

MVAG Vorderasiatisch-aegyptische Gesellschaft. *Mitteilungen* (Berlin, 1896–1908; Leipzig, 1909—).

OIP Chicago. University. Oriental Institute. *Oriental Institute publications* (Chicago, 1924—).

OLZ Orientalistische Literaturzeitung (Berlin, 1898–1908; Leipzig, 1909—).

RHA *Revue hittite et asianique* (Paris, 1930—).

SAOC Chicago. University. Oriental Institute. *Studies in ancient oriental civilization* (Chicago, 1931—).

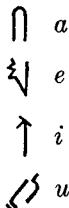
ŠuK BOSSERT, H. TH. Šantaš und Kupapa. *Neue Beiträge zur Entzifferung der kretischen und hethitischen Bilderschrift* (*Mitteilungen der Altorientalischen Gesellschaft* VI 3 [1932]).

WZKM Wiener Zeitschrift für die Kunde des Morgenlandes (Wien, 1887—).

ZA Zeitschrift für Assyriologie und verwandte Gebiete (Leipzig, 1886—).

THE WRITING
THE NORMAL SYLLABARY

SIGNS OF KNOWN VALUE



The readings of these four vowel signs are relatively sure (HH II 12–14). Even Meriggi has finally abandoned his former reading of the second sign as *ra* and now takes it as a vowel, *ə* (OLZ XXXIX [1936] 157 f.; RHA IV [1936–38] 96 f.). His diacritic mark over *a* has its origin in the fact that he distinguishes two other *a* signs: the common one, universally read as *a*, and an *ā* (OLZ XXXIX 158, n. 1; RHA IV 76), read by myself as ²*a*. However, Meriggi transcribes the latter sign as *ā* in only a few cases; normally he reads it as *e* (e.g. in MVAG XXXIX 1 [1934] p. 3 and in RHA IV 96 f.).



There is nothing to add to the discussion of this value as given in HH II 15 f. beyond the observation that this sign interchanges with *a* in ²*a-i-ā-ta* (I M XIX B 15) = *a-i-ā-ta-a* (CE XII 4) and with *e* in ²*a-pa-sa-n(a)* (OLZ XXXVII [1934] 147:8) = *e-pa-sa-n(a)* (*ibid.*). Cf. also hieroglyphic Hittite ²*a-si-i-* with cuneiform Hittite *aššiia-*, “to love,” discussed below, p. 17.

 a
 e
 i
 u

In proposing to read the first and third signs in this group as the nasals *ā* and *ī* respectively, I stand entirely alone (HH II 9–12). Other scholars read these two signs as *ā* and *ī* (Meriggi in ZA XXXIX [1930] 176 and 184; Bossert in AOF IX [1933/34] 111 and 113 [however, later, in AOF X (1935–36) 286, Bossert reads the latter sign as *ja*]; Friedrich in ZA XLII [1934] 189), as *ea* and *ia* (Forrer, HB pp. 39 and 33), or as *ā* and *ja* (Hrozný, IHH pp. 101 and 105). In a review of HH II Meriggi considered my proposed reading of the nasal sounds as being worthy of examination; but, because of a complex of reasons which he was unable to discuss at that time, he believed the theory to be untenable (OLZ XXXIX 156). Friedrich, in his review of HH II, expressed the belief that the possibility of nasal sounds should be taken into serious consideration (*Deutsche Literaturzeitung*, 1936, cols. 1826 f.).

The chief argument in support of the nasal theory is based on the observation that  and  do not occur in the early Carchemish inscriptions and that in their place the combination *a-e* or *i-e* is often found. This led me to the assumption that  and  found in the later Carchemish inscriptions and elsewhere are but a late development from  and , i.e., *a* and *i* plus subscript *e*. In favor of this assumption I cited the development in medieval Latin and Polish of the nasal sounds written *q* and *ɛ* from *a+e* and *e+e* respectively.

To the several examples already cited by myself, such as hieroglyphic Hittite *pi-ā-tu* corresponding to cuneiform Hittite *pi-an-du*, “may they give,” and the genitive plural ending *-āsa* or *-āša* in the hieroglyphic inscriptions corresponding to similar Luwian forms ending in *-nzi* or *-nza*, I can now add another important parallel. Meriggi discussed two similar signs which he read as **ANDA** and **ANDU(R)**

(WZKM XLI [1934] 37, n. 1; MVAG XXXIX 1, pp. 13 and 93 f.; RHA IV 78 f., Nos. 51 f.). The way he distinguished the two signs and his reasons for reading the second sign as ANDU(R) are debatable. Nevertheless, he has clearly established the meaning of his ANDU(R) ideogram as “in, into” by comparison with cuneiform Hittite *anda* with the same meaning. Now the ideogram read by Meriggi as ANDUR (MVAG XXXIX 1, p. 94) is followed by *a-e-ta-pa-wa* in an early Carchemish inscription (I M XIV 7:3 f.).¹ This inscription is preserved in a fragmentary state, and because the ideogram occurs in line 3 and the phonetic signs in line 4 Meriggi (*loc. cit.*) failed to see the connection between them.² If we disregard the particle *-pawa*, *a-e-ta* appears to be the phonetic spelling of the preceding ideogram, which, as stated above, represents cuneiform Hittite *anda*. Thus this example provides a further argument for the assumption that the combination *a-e* expresses nasalized ā.

In the examples quoted in HH II and above we have observed original *n* expressed by nasalization, as in *anta* written *a-e-ta* corresponding to ā-*ta*. However, examples of this sort are very rare.³ Normally *n* before another consonant is not expressed in the writing at all.⁴

Much more commonly than I myself realized, nasal signs are used secondarily in forms where normally simple vowels would suffice. Thus, of the word *titas*, “father,” written *ti-ta-a-s(a)* (II M LII 3) in nom., the dat.-loc. is *tīta*, written *ti-ta-a* (A 2:2) or *ti-ta* (I M X 4 and 8). But from the nom. ⁴*Ku-papa(pa-pa)-s(a)* (A 15 b** 2) the dat.-loc. is not only ⁴*Ku-papa(pa-pa)* (A 11 b 6) but also ⁴*Ku-papa(pa)-ā(-ha)* (A 13 d 6), just as from nom. ⁴*Ka-tu-wa-s(a)* (A 2:1 and *passim*)

¹ The same ideogram, followed by *-ta-pa-wa*, occurs in a recently published inscription from Çiftlik (HHM 17 rev. 3).

² The sign *pa* appears in an unusual form in this early Carchemish inscription; but Meriggi both in MVAG XXXIX 1, p. 72, and in RHA IV 180 interpreted the sign correctly as *ba* (our *pa*).

³ The assumption expressed in HH II 10 f. that the acc. sing. ends either in *-n* or in a nasal *-ā* requires correction in view of the new interpretations offered below, pp. 41–53, where it is shown that *-n* is used for the acc. masc., *-ā* for the acc. neuter.

⁴ See HH II 12 and my EHH.

there is a dat.-loc. *Ka-tu-wa-ā* (*ibid.* l. 3).¹ Cf. also *za-a* (A 6:8) and *za-ā* (A 6:8 and 9), "he takes," likewise *arba(ha)* *x-a* (A 2:4) and *arba(ha)* *x-ā* (CE V 3), "he removes." Secondary nasalization before a consonant can be seen in ²*a-me-ā-ta-a* (A 6:2) or *me-ā-ta-e* (A 11 a 3), abl.-instr. case from ³*ameas* or *meas*, "mine"; *a-i-ā-wa* (Assur e Vu 4 f.), variant of *a-i-a-wa-a* (IHH Pl. CII 7), "I make"; and *a-i-ā-ha* (M XXIII A 2), variant of *a-i-a-ha* (A 6:4), "I made."

It may be recalled that the sign for *ī* is a development of *i+e*. Therefore it is possible that in some cases the compound sign is used not only with its secondary value of nasal *ī* but also with its primary value *i+e*. The latter is suggested for the demonstrative *ī-s(a)* or *ī-e-s(a)*, which is perhaps to be read *i+e-s(a)* or *i+e-e-s(a)*. In the case of *i+e-e-s(a)* the second *e* would form a phonetic complement to *i+e*, just as in the writing *tra(ra)* the *ra* sign forms a phonetic complement to *tra*.

The second sign of the nasal group, here transliterated as *ē*, was left unread in HH II, although even at that time I could have accepted the conclusive evidence brought forward by Bossert (AOF IX 114, Fig. 14, n. 2) that this sign interchanges with *ī-e*. Interchange of such forms as ²*a-ze-ma-ī* (A 11 c 3)² with ²*a-ze-ma-x* (A 18 e 2) and COURT-*zi-ī* (A 11 c 2) with COURT-*zi-x* (A 18 e 3) is beyond doubt. Meriggi accepts such interchange and gives the sign in question (here rendered by *x*) the value *i* (MVAG XXXIX 1, pp. 2 f. and 71 f.). Hrozný (IHH pp. 245 f.) does not distinguish between this sign and *pa*, which is similar in form but certainly different in reading. That the vowel is nasalized is self-evident from the comparisons adduced above. The vowel itself is not sure, but it can hardly be anything but *e*.

No sign for *ū* has yet been discovered. Comparison of such forms as ⁴*Tarḥu(bu)-ī-s(a)* (A 6:2) and ⁴*Tarḥu(bu)-s(a)* (OLZ XXXVII 147:6), both pronounced Tarḥun(t)s, suggests that under certain conditions *ī* could perhaps be used for *ū* also.

¹ For other examples of dat.-loc. in *-a* and *-ā* see p. 42 and my EHH.

² Cf. also ²*a-ze-ma-e* and ²*a-ze-ma-i* discussed below, p. 49, n. 6.

① *ha*

Ϣ *he*

Ѿ *hi*

ѾѾ *hu*

These four signs were read thus in HH II 16–19. The value *ha* of the first sign is sure, even though Hrozný still occasionally reads it with the value *u* (IHH pp. 363 and 437; AOr IX [1937] 414, n. 4). The sign *he* interchanges with *ha*, and its vowel is assigned on the basis of this interchange.¹ The value *hi* of the third sign is sure. My reading of the sign *hu* has now been accepted by Meriggi (OLZ XXXIX 158; RHA IV 96–98) and Hrozný (AOr IX 411, n. 1).²

Ԇ *ia*

Ԇ *iā*

On the values of these signs see pp. 54–58 and 60–63.

¹ See also my discussion of the personal name *He+r(a)-ti-pu-s(a)* in AJA XLI (1937) 290.

² The reading of this sign is of great importance because on it depends mainly the correct interpretation of the name of the chief god of the hieroglyphic Hittite people, read by myself as Tarhuns (HH II 18 f.; cf. HH I 28 and 34). Hrozný now believes that when *hu* is added Tarhuns may be the correct reading, whereas without that phonetic complement Santa/ujas may be meant (IHH p. 411, n. 1). Meriggi definitely adopts the reading Tarhun(i)s only (RHA IV 98). For this he believes he has found important additional evidence in the Hamath inscription (M VI), in line 3 of which he reads ⁴s *Tar-bu-ī(?)s*. Unfortunately, however, the reading is much more doubtful than he realizes. For many years I myself hoped to find in this passage a proof for the proposed reading Tarhuns. Both in 1932 and in 1935 I collated this passage, but I could not see the signs I had hoped to find. I did see clearly the divine determinative and the ideogram for Tarhuns, then a number of phonetic signs: a clear *tra(ra)*, then perhaps *sa*, then *a*, then very doubtful *ta*, and a clear *sa* at the end. My reading of the sign *tra(ra)* (p. 12) also speaks against Meriggi's interpretation.



ka



ke



ki



ku

On the signs *ka* and *ku* see HH II 19 and 21. Their values are indisputable. On *ke* and *ki* see below, pp. 54–66.



la



le



li



lu

These four signs were discussed in HH II 21 f., and their values even in respect to the vowels are almost sure. My belief that the second sign is *le* (against Hrozný's and Meriggi's *la*) is now strengthened by the comparison of GATE_{2-c}-le-ni-śa-a-i in hieroglyphic Hittite (A 11 c 6) with bīt *hi-li*(or *le*)-ni-e-śu in an Akkadian inscription of Assurbanipal (Theo Bauer, *Das Inschriftenwerk Assurbanipals* [Leipzig, 1933] I, Pl. 5, A¹ vii 17, transliterated in II 6).



ma



me



mi



mu

The signs *ma*, *me*, and *mu* were treated in HH II 22. All scholars agree on the readings of these three signs; only Meriggi reads the sign *me* slightly differently, as *mi*.

The remaining sign has been the subject of much discussion. In HH I 48 I read the geographic name (A 1 a 1) as *pā+ri-ka-i-nā-nī* ("city") and, following Frank (cf. HH I 2), identified it with the name of the well known city Barga near Carchemish.

This and some other considerations led me to believe that the sign in question had the value *pá*. Meriggi accepted this value in several of his studies (OLZ XXXV [1932] 565; XXXVI [1933] 78; etc.). The variant forms of this sign are stereotyped and easily distinguished. My original idea that this sign was itself a variant of the "bird" sign  so commonly used in the writing of the divine name Kupapas (HH I 48 f.)—an idea accepted later by Meriggi (*locis citatis*)—is lacking in support. Nor is Meriggi's identification (in MVAG XXXIX 1, p. 2, and in RHA II [1932-34] 244) of  with  in the Sultanhami inscription (HHM 49 A 3) possible, because the former always has a closed horizontal base. In a later study Meriggi correctly separates it from the "bird" signs but includes the Sultanhami sign (discussed below, p. 36) among variants of the latter (RHA IV 83, Nos. 125 ff.). Hrozný, on the other hand, reads the sign in question as *è* (IHH p. 494, n. 2); with the tang he reads it as *è(r)* or even *rì* (*ibid.* pp. 145 and 196) and identifies it (*ibid.* pp. 96, 102, and 161) with the similar-looking but entirely different sign discussed below on p. 32.

Yet Hrozný was doubtless right in recognizing that in front of the assumed city name Barga there are two more signs which must be read as part of the name (IHH p. 196). In my later reading ^{bowl}Se-x+ra-ka-wa-ne-na^{city} (HH II 31) I followed that of Hrozný.¹ The *x* represents the sign here under discussion and shows that even at that time I had begun to have doubts about the correctness of *pá* as its reading. Hrozný, transliterating the name as ^{lамре}Sā-è(r)-ga- or -rì-ga-, thought of the Hittite city Šerigga.

I now read ^{bowl}Se-mi+ra-ka-wa-ne-n(a)^{city} ^dTarhu-ž-n(a) in A 1 a 1 and ^{bowl}Se-mi+ra-ka-wa-ne-s(u)^{city} ^dTarhu-ž-s(a) in A 1 a 6

¹ This form is paralleled by ^{bowl}A-la-te-ḥa-n(a)-ḥa-wa^{city} in the same inscription, line 2. The name is certainly in acc. but acc. *n*, against the common practice, is not assimilated to the following consonant, in this case *ḥ*. A parallel treatment is found in ^dTe-mu-ri-n(a)-ḥa, discussed below, p. 14; for other examples see my EHH. ^aAlat(e)ḥas can probably be identified with the ancient city Alatḥa or Alalḥa (see most recently W. F. Albright in *Bulletin of the American Schools of Oriental Research*, No. 63 [1936] pp. 24 f.), modern Tell Aṭshāneh in the vicinity of Antioch in Syria. The cuneiform spelling is clearly ^aA-la-at-ḥa-ma^{xx} as copied by C. Virolleaud, *La légende phénicienne de Danel* ("Mission de Ras-Shamra" I [Paris, 1936]) p. 23; confusion of *at* with *la* such as might occur e.g. in the cuneiform writing from Boğazköy is here hardly possible.

and translate “*Tarhuns of Se-mi+ra-ka*” in acc. and nom. respectively. This reading is based on comparison with the city name Išmirika in cuneiform Hittite sources from Boğazköy.¹ The hieroglyphic writing *Se-mi+ra-ka* and the cuneiform Hittite *•Iš-mi-ri-ka/ga* can be best reconciled if we assume that the original form of the place name was Smireka or similar and that the writings *se-mi-* and *iš-mi-* each attempt to reproduce two contiguous initial consonants. The mention of *•Iš-mi-ri-ka/ga* in connection with Kizwatna (Cilicia) at Boğazköy fits well with the occurrence of *Se-mi+ra-ka* in hieroglyphic Hittite at Carchemish.²

The correspondence of MOUNTAIN, *tra(ra)-pa-mi-î-ha* (HHM 15:2 and 16:2) with *tra(ra)-pa-a-me-a-s(a)* (Assur a Vu 9 f.) and with FEET, *tra(ra)-pa-ma-î* (HHM 32:2) may possibly provide another proof for the proposed value *mi*. The root *trapa-* means something like “(re)turn.” Its reading and translation find their best confirmation through comparison with Greek *τρέπω*, “turn,” and similar words in other Indo-European languages. The form *trapamîha* is a verbal form standing in the same relation to the past participle *trapameas*, *trapames*, or *trapamas* as does *te-ni-me-a-ḥa* (A 6:6) to *te-ne-me-a-s(a)* (A 1 a 2).

Decisive for the value *mi* would be the finding anywhere in cuneiform Hittite sources of a divine name or epithet corresponding to ⁴*x Ku-mi+ra-ma-ś(i)* in an inscription from Tell Aḥmar (see p. 16).

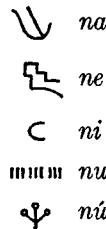
After this study had been written I discovered one more comparison which may settle the problem in favor of the reading here proposed. In identical context we read in one inscription *x+me-ma-ta-*

¹ Written *•Iš-mi-ri-ka* and *•Iš-mi-ri-ga* in a treaty between Arnuwandaš and the people of the city Išmirika (KUB XXIII 68 and XXVI 41).

² The ancient city concerned may perhaps be identical in both site and name with the modern Shimmaryk, about 10 kilometers south of Killiz (according to Richard Kiepert's *Karte von Kleinasien*, sheet Haleb (2d ed.; Berlin, 1911). R. Dussaud, *Topographie historique de la Syrie antique et médiévale* (Paris, 1927) Map XII, opp. p. 452, calls this site Shimmariq.—A. Goetze, *Kizzuwatna and the Problem of Hittite Geography* (“Yale Oriental Series. Researches,” Vol. XXII [New Haven, Conn., 1940]) p. 48, locates Išmirika “to the northwest of a line drawn from Harran to the Karaca Dag” and provisionally identifies it with modern Severek. Before him Forrer placed this city in the upper valley of the Euphrates in northwestern Armenia (*Klio* XXX [1937] 186), while R. Ranoszek put it in the neighborhood of Harput and Malatya (*Comptes rendus des séances de la Société des Sciences et des Lettres de Varsovie* XXXII [1939] Classe I, p. 28).

me-a-s(a) (A 6:1) while in another occurs perhaps **x+me-ma!-ta-mi-l-s(a)!** (CE X 1). The sign *mi* is almost clear in the copy; the signs *ma* and *sa* are not so clear. My proposed corrections of CE are based on what I see in the photograph at my disposal. Interchange between the endings *-meas* and *-mis* (= *-mes*) in the mediopassive participle is found often.¹

It may be added that the sign for *mi* is also used ideographically in **x mu-wa-a-za-n(a)**, "strength, violence," in A 11 c 4. Meriggi interprets this word as *pd-mu-wa-a-ta-an* (MVAG XXXIX 1, p. 55); he reads the first sign phonetically and pays no attention to the fact that already in HH I 70 f. I had interpreted its occurrence in a Malatya inscription (CE XXI; HHM 46 and p. 36) as "great(?)".



All these signs were discussed in HH II 23–25. I am now more persuaded than ever about the correctness of their interpretation. The value *ni* finds additional support in the correspondence of hieroglyphic Hittite *Ku-ku-ni*² with cuneiform Hittite Kukkunniš, name of a king of Wiluša,³ and of ⁴*Ni-ka+ra-wa-s(i)* (A 6:9) with the name of the Sumerian divinity Ninkarrak.⁴

¹ See my EHH.

² The copy in M XLII 5 shows *Ku-ku-ma?*, read as *Ku-[r]-ku-ma* by Meriggi in MVAG XXXIX 1, p. 135. However, the photograph of the seal in D. G. Hogarth, *Hittite Seals, with Particular Reference to the Ashmolean Collection* (Oxford, 1920) Pl. VII 188, favors my interpretation. Hogarth's copy of the seal (*ibid.* p. 37) follows Messerschmidt rather than the photograph.

³ Written ^m*Ku-uk-ku-un-ni-īš*; see J. Friedrich, *Staatsverträge des Hatti-Reiches in hethitischer Sprache*, 2. Teil (MVAG XXXIV 1 [1930]) p. 52 B 18 and pp. 88 f., and F. Sommer, *Die Aḥhijavā-Urkunden* (Abhandlungen der Bayerischen Akademie der Wissenschaften. Philos.-hist. Abt., N.F., No. 6 [München, 1932]) p. 371. The inability of the Hittite hieroglyphic writing to express double consonants accounts for the single writing of *k* and *n*.

⁴ See Gelb in AJSL LV (1938) 200–203.

In favor of my previous assumption that the *nú* sign is only a simplified form of *nu* I can now adduce a cuneiform parallel in the writing of the number 9 both as  and in abbreviated form as .

However, another and perhaps better interpretation is suggested by the observation that in the older inscriptions, e.g. those from Emirgazi, only *nu* is used, while in the younger ones, e.g. the Assur lead strips, only *nú* is used. This may perhaps mean that *nu* and *nú* are independent signs, that originally only *nu* was used, but that in the middle period the simpler sign *nú* was introduced into the system in place of the disproportionately wide sign *nu* and gradually supplanted the latter entirely in the late inscriptions.¹

	<i>pa</i>
?	<i>pe</i>
	<i>pi</i>
	<i>pu</i>

The first and third signs were discussed in HH II 25. The correspondence of the personal name ^m*Tar̪hu(bu)-pi-ā-s(a)* (G. Contenau in *Revue des arts asiatiques* XII [1938] Pl. XXIV b) or *Tar̪hu(bu)-pi* (C. L. Woolley in AAA VI [1914] 97) with ^m*Tar̪-hu-un-da-pi-i* of Late Assyrian sources² further supports the value *pi* assigned in HH II. The name *Tar̪hu(nt)-piās* means “*Tar̪huns (is) giving*,” parallel to *Tar̪hu(bu)-n(a)-^{litus}a-ī-s(i)* in CE XII 1, “*Tar̪huns (is) loving*.³ In some of these examples, as often in names on seals or in short signatures, the nom. ending is omitted.⁴

The value *pu* for the fourth sign was proved by myself in AJA XLI

¹ It may also be pointed out that a sign almost identical in form with Hittite *nú* occurs also in the Cretan hieroglyphic writing (A. J. Evans, *Scripta Minoa* I [Oxford, 1909] 215 f.), where it may be plausibly interpreted as picturing a pomegranate tree (see Bossert on pomegranate in OLZ XXXIV [1931] 322-28).

² K. L. Tallqvist, *Assyrian Personal Names* (Helsingfors, 1914) p. 230.

³ The occurrence of the present participle in this name was first explained by Bossert in AOF VIII (1932/33) 143.

⁴ For another example see the interpretation of the Tarkondemos seal on p. 28.

289–91 on the basis of its occurrence in the name *Pu-tu-ha-pa*¹ and was accepted by Hrozný (IHH p. 503), who, however, assumes (*loc. cit.* and *ibid.* pp. 316 and 353) that besides the value *pú* this sign may have also a value *lá* or *lú* (*lú* on p. 503). Meriggi has read it *ri*.²

!	<i>ra</i>
?	<i>re</i>
՞՞՞	<i>ri</i>
՞՞՞՞	<i>ru</i>

Of these three signs, discussed in HH II 25–30, the first is by far the most important. Even though it seems to me that I have proved convincingly its syllabic character, other scholars still doubt it. Thus Meriggi in a review of HH II in OLZ XXXIX 158 persists in reading the tang as *r*, while Hrozný transliterates this sign in his former fashion as *(r)*, considering it, more often than not, to be an indication of length. Friedrich, in another review of HH II, was unable to choose between my reading *ra* and the *r* of other scholars (*Deutsche Literaturzeitung*, 1936, cols. 1827 f.).

It is generally accepted that the sign *ra* when used phonetically never stands by itself but is regularly attached to the preceding syllable. Thus e.g. the closed syllable *kar* is expressed by *ka+r(a)* in *Ka+r(a)-ka-me-se^{land}* (A 4 b 1). In HH II 13 f. and 28 it was shown that the full syllabic value *ra* could be distinguished from *r(a)* by use of the combination *e+ra* or *a+ra* instead of *ra* alone, e.g. in ⁿ*Sá-ka-e+ra-s(a)* = Assyrian cuneiform Sangara. Since then I have collected additional examples favoring my proposed reading:

1. Hittite hieroglyphic ⁴*Ni-ka+ra-wa-s(i)* in A 6:9 is equated with the name of the Sumerian divinity Ninkarrak (see above, p. 9), where the syllabic value *ra* is required.
2. In *í+ra-ta-ta-a* (CE V 2) compared with *í+ra-a-ta-ta-a* (HHM 49 A 2) and in *pa+ra-ha-e* compared with *pa+ra-a-ha-e* (both in

¹ This value *pu* also fits well into the interpretation of *x₂tra(ra)-pu-na-s(i)* as “tribune” and of the personal name *He+r(a)-ti-pu-s(a)* = Hertipus, discussed in the same article.

² RHA IV 96 and 103 f.

A 1 a 2) the tang cannot be read otherwise than as *ra*, for the variants add the phonetic complement *a*.

3. The writings *pa+ra-e+ra-ha* (Assur a Vu 1) and *pa+ra-e+ra-wa* (Assur c Vu 8) for *paraha* (1st per. sing. pret.; written *pa+ra-he* in A 5 a 1) and *parawa* (1st per. sing. pres.) respectively, from the root *para-*, “to offer,”¹ show that the combination *ra-e+ra* stands for *ra*, hence that addition of *e+ra* is another graphic means of delimiting the reading of the tang as *ra*.

4. Interchange of simple spellings with the tang only and fuller spellings with *e+ra* appears in *ha-tu+ra-e* (Assur e Vo 13) and *ha-tu+ra-n(a)* (Assur e Vu 8) compared with *ha-tu-e+ra* (Assur a Vo 14) and *ha-tu-e+ra-s(a)* (Assur f Vu 10).

5. Similar interchange with *a+ra* is found in *u-ī+ra-a* (Assur a Ro 7) and *u-ī-a+ra* (Assur a Vo 17).

6. Interesting and important from more than one point of view is the identity of *arha(ha) ha+ra-a+ra*, “breaks, ruins, destroys,”² in the Karapınar inscription (OLZ XXXVII 147:8) with *arhal!(ha)-e ha!-a+ra* in the Bulgarmaden inscription (CE XII 5). Cf. the more simply written *ha+ra-tu*, “may (the god) destroy,” at Bulgarmaden (*loc. cit.*) and *arha(ha) ha+ra-tu*, “may (the gods) destroy,” at Karapınar (l. 8).

Some examples in favor of reading || | (p. 37) as *tra(ra)* likewise prove the correctness of the interpretation of the tang as *ra*. Among the best are the words *trapa-*, “to (re)turn” (p. 8), and *trapunas*, “tribune” (p. 11, n. 1).

In the word *sa-na-wa-sa-tra(ra)-a+ra-ha* (HHM 49 A 2), probably pronounced *sanawasatraha* and meaning “I made good” or “I improved,”³ *a+ra*, read as *ra*, seems to be a second phonetic complement of *tra(ra)*.

The writings **HAND** *a-s(e)-tra(ra)-a* (A 6:5 and 7) as compared with **HAND-*tra(ra)*** (I M X 3) and **x-*tra(ra)-a-n(a)*** as compared with

¹ Identical with cuneiform Hittite *parai-*, “send forth, offer,” etc. (E. H. Sturtevant, *A Hittite Glossary* [2d ed.; Philadelphia, 1936] p. 116).

² The translation is based on comparison with the cuneiform Hittite verb *barra-* with such meanings (Sturtevant, *A Hittite Glossary*, 2d ed., p. 45).

³ Following Meriggi’s translation in RHA II 243: “(je) les ai perfectionnés(?)”

x-tra(ra)-n(a) (both in the Karapınar inscription, OLZ XXXVII 147:8) show the phonetic complement *a* following *tra(ra)*. Meriggi's reading of such cases as *-tar-a*¹ seems impossible because it is contrary to the principles of Hittite hieroglyphic writing. Besides that, the form ending in *-tar* (as transliterated by Meriggi) would be irreconcilable with the one ending in *-tar-a*, just as the form ending in *-tar-n* could be reconciled with the one ending in *-tar-a-n* only by assuming the impossible reading *an* for the sign read by myself as *na*.

In the Karapınar passage just cited we find *e-pa-sa-n(a) x-tra(ra)-a-n(a)* and *²a-pa-sa-n(a) x-tra(ra)-n(a)*. The word *epasas* or *²apasas*, here used in the acc., means "his." The second word, **x-tras**, occurs in its full phonetic spelling, as **x₂²a-tra(ra)-a-n(a)**, in two other inscriptions (II M LII 5 and A 15 b** 2). That *²atran* (acc.) is the full phonetic spelling of the ideogram **x** is proved by the fact that *²a-tra(ra)-a-n(a)* starts with *²a*, which occurs only at the beginning of a word.² The word *²atras* was translated first by Forrer as "Schrift" (HB p. 15); Meriggi preferred "(Weih)bild" (MVAG XXXIX 1, p. 165). Following these translations hieroglyphic Hittite *²apasas* *²atras* can probably be compared with Lycian *atla ehbi* or *atra ehbi*, which means "his person" and serves as the reflexive pronoun "himself."³ This comparison not only gives us the correct translation for the Hittite hieroglyphic word but also furnishes additional evidence for the reading *tra*.

Some problems concerning the use of the tang still defy explanation.⁴ For instance, why should only the tang, of all the syllabic

¹ E.g. in RHA IV 200.

² See HH II 15.

³ Meriggi, "La declinazione del licio," R. Accademia Nazionale dei Lincei, *Rendiconti della classe di scienze morali, storiche e filologiche*, Ser. VI, Vol. IV (1929) 428 f.—Incidentally it may be mentioned that the form *²a-pa-sa-tra(ra)-s(i)* in the Niğde inscription (II M LIII) may stand for *²apas-²atras* and likewise mean "his person." *²Apas* here would of course be the genitive of *²apas*, "he" or "that one."

⁴ In HH II 27 f. was discussed the possibility of reading *x+ra* not only in that order but also as *ra+x*. In favor of that possibility we might compare the forms **x₂²i+ra-²i-me-s(a)** (A 7 j 1 f.) and **²i-ra+²i-te+ra** (A 14 a 4; written in the order *²i-²i+ra-te+ra*), participle and 3d per. pl. pret. mediopassive respectively of a verb *²ira²i-* with unknown meaning. The compound ideogram mark used in the first example shows that the full syllabic spelling follows the ideogram. For this principle see my EHH.

signs, never stand by itself but always be attached to another sign? And what is the difference between *e+ra*, read as *ra*, and *a+ra*, also read as *ra*? But I hope that this long exposition has helped to solve some difficulties and to convince skeptics that the tang represents the syllable *ra* and functions just like other signs with the values *ma*, *pa*, *ta*, etc. In closed syllables *ra* becomes *r(a)*, just as these other syllables become *m(a)*, *p(a)*, *t(a)*, etc.

The reading of ՞՞՞ as *rx* (HH II 28 f.) was considered "erwägenswert" by Meriggi in his review of HH II in OLZ XXXIX 158; but in RHA IV 96 and 103, n. 30, he reads that sign as *l²*. Hrozný (IHH pp. 110, 184, etc.) reads as *la*, *l(?)*, and *la₁(?)* the signs ՞, ՞, ՞, which should be carefully distinguished.

The value *rx* or, more exactly, *ri* for the sign in question is now supported by an additional comparison. A Tell Ta'yināt inscription mentions a deity ⁴*Te-mu-rx-na-ha* (HHM 58, frag. 2:4), who may well be identical with the deity Timuri named in Ar-timuri, a Hurrian personal name from Nuzi.¹

Comparison of HOUSE *ha+ra-se-ti-ni-i* (A 11 a 5)² and x.HOUSE-*ri-se-te-ni-s(a)* (M XI 5)³ shows interchange of *ra* and *ri*.

¹ Written ^m*Ar-ti-mu-ri* in E. R. Lacheman, *Joint Expedition with the Iraq Museum at Nuzi. Miscellaneous Texts* (American Schools of Oriental Research, "Publications of the Baghdad School. Texts," Vol. VI [New Haven, 1939]) No. 593:3, 6, 11, 28. The divine name Timuri may be connected with the Anatolian city name Timur (D. D. Luckenbill, *Ancient Records of Assyria and Babylonia* I [Chicago, 1926] § 582), identified with *Τιμύρα*, *πόλις περι Ισανηλαν*, of Stephanus of Byzantium by P. Kretschmer in *Glotta* XXI (1933) 234.—Owing to the fragmentary preservation of the Tell Ta'yināt inscription it is difficult to determine from the context the grammatical form of ⁴*Te-mu-ri-na-ha*. Possibly it is one of the rare examples in which the acc. ending *-n* is not assimilated to the following consonant, in this case the *h* of *-ha*, "and." For a similar example see above, p. 7, n. 1.

² Similar forms in A 11 b 5 and 11 c 2 and 6.

³ Neither Hrozný in his reading . . . -*la₁(?)-sà-ta-s* (IHH p. 242) nor Meriggi in his reading x-HS-*l²-si-ta-s* (MVAG XXXIX 1, pp. 68 and 116) pays any attention to the *ni*, both considering the traces of this sign in Messerschmidt's copy to be purely accidental. However, early copies of this inscription published in *Transactions of the Society of Biblical Archaeology* VII (1882) Pl. III ad p. 436 and in William Wright, *The Empire of the Hittites* (London, 1884) Pl. X, show the *ni* much more clearly.

△△ *sa*

☷ *se*

☱ *si*

○ *su*

☴ *ša*

? *še*

☶ *ši*

☷ *šu*

The values of the first four signs are given here as in HH II 30 f., except that the fourth sign is transliterated as *su* against the more cautious *sx* of the former study. However, no new evidence for the exact values of the four *s* signs has been discovered in the last few years, and it must be remembered that the vowels of all four, except perhaps *sa*, seem to be as doubtful as ever.

Especially troublesome is the very common “goat’s head” sign, here transliterated as *se*. It often interchanges with the *sa* and *ša* signs, as in the suffix of the 2d per. sing. present (see p. 19), in *x₂-tu-wa+r(a)-se-i* (II M XXXIII 3) as compared with *x tu-wa+r(a)-ša-n(a)* (*ibid.*), and in *SEAT₂-a-se-nú-wa-ḥa* (A 6:4) etc. as compared with *CHAIR.SEAT²a-sa-s(a)* (A 6:8) etc. The value *se* may find some support from reading the hieroglyphic name on the Indilimma seal (Hogarth, *Hittite Seals*, No. 181) as *Se+r(a)-tu* and comparing it with *Šé-er-du*, a personal name known from the Cappadocian tablets (G. Eisner and J. Lewy, *Die altassyrischen Rechtsurkunden vom Küllepe* [MVAG XXXIII (1930)] Nos. 43:3 and 44:3 and 14). The relationship of hieroglyphic *Se+r(a)-tu* to cuneiform *Še?-er-da-mu* (name of the father of Indilimma) is not yet clear to me.

Already in HH II 30, n. 7, I remarked that the large number of *s* signs there listed (five, one more than the normal four) suggested that some of them may express related sounds. This can now be definitely proved for one of those five and for at least two more signs.

The sign  was left unread in HH I. Hrozný proposed the value *lā* for it,¹ based on such comparisons as that of x *wa-x+ra-nú-ha* (A 6:3, read as x-va-lā^(r)-jé-u by him) with x *wa-li-ā-nu-wa-ha* (II M LII 4, read as x-va-li-ā-je-va-u). This and some other considerations led Meriggi to accept Hrozný's reading with a slight change from *lā* to *lī* for *x* alone and to *lī* for *x+ra*.² Because all the arguments adduced by Hrozný and Meriggi in favor of these readings were unpersuasive, I left the sign unread in HH II also. That my doubts were well founded will be seen from the following paragraphs, in which evidence is given that this sign has the value *si*.

The sign  is always closed at the bottom. Different is , open at the bottom, which is never used as a syllabic sign but occurs only as an ideogram for a very frequent title read *trawanis* and meaning "prince." The distinction between the forms and readings of these two signs was made tentatively by Meriggi in RHA IV 166, n. 61, and in my opinion it is beyond reproach. Evidently Hrozný also now favors keeping separate these two signs (cf. IHH p. 491, n. 2).

In an inscription from Tell Ahmar, last published by Hrozný (IHH Pl. CII 1 f.), we read *BOWL_{2c}-śa³-a-s(a)* ⁴*Tarḥu(hu)-s(a)* GOD-a-ā-sa KING-*ta-a-s(i)* ⁴*x Ku-mi+ra-ma-x* ⁴*x_{2c}Mu-ta-le-s(a)* ⁴*x-lu-pa-s(a)* *Ha+ra-na-wa-ne-a-s(a)-ha_{city}* ⁴*x+me-s(a)*. The translation of this section is simple: "Tarḥuns of the (sacred) bowl, king of the gods, Kumiramas, Mutales, . . . lupas, and . . . mes of Harranas." It is clear that the names of all the gods are in the nom., and a priori it may be assumed that *x* in the name ⁴*x Ku-mi+ra-ma-x* represents the nom. ending *s*.⁴ There are several other personal names and words, such as *x-wa-ti-x* (HHM 18 C 1), *LORD-x* (*ibid.* ll. 3 f.), ⁴*Ka-tu-wa-x* (A 13 d 1), and some occurrences in the İspekçür inscription (HHM

¹ IHH pp. 32, 110, etc. As observed above (p. 14), Hrozný does not distinguish clearly between this sign and two others.

² WZKM XLI 1 and 16; MVAG XXXIX 1, pp. 3 and 9 f.; IF LII (1934) 46; RHA II 245 f. It is probably the existence of such forms as x *wa-x+ra-la-a* (A 11 c 6) and x-*x+ra-la* (A 11 a 5) in comparison with x *wa-x-la-a* (CE XII 3) and x-*x-la-a* (A 2:4) that led Meriggi to the assumption that *x+ra* (his *lī*) must be identical with *x* (his *lā*). These forms are still difficult to interpret unless we assume elision of *r* in the last two examples.

³ On the value *śa* see pp. 18 f.

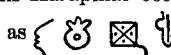
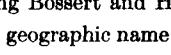
⁴ The adjectival form of the same divine name appears in the acc. as ⁴*x-ma-śa-n(a)* in HHM 58, frag. 1 B 1.

28), in which the same sign *x* must be read as the nom. ending. There may be mentioned also the opinion reached independently by G. Accorsi and cited by Meriggi (*loc. cit.*) that in ⁿ*Ka-tu-wa-x* (see above) the *x* sign is the end of the name and should be read *-s*; but Meriggi was unwilling to abandon his old readings of the sign and to approve fully the thoroughly acceptable suggestion of his colleague.

In the Karapınar inscription occurs a form ³*a-pa-x-ta* (OLZ XXXVII 147:3) in whose unread syllable *x* comparison with ³*a-pa-sá-n(a)* (*ibid.* 1. 8), *e-pa-sa-n(a)* (*loc. cit.*), ³*a-pa-sa-n(a)* (*loc. cit.*), ³*a-wi-sá-n(a)* (*ibid.* 1. 6), ³*a-pa-sá-n(a)* (A 6:9), ³*a-pa-sá-a-n(a)* (HJM 7 D 3), and ³*a-pi-sá-n(a)* (M VI 2) speaks in favor of the presence of a sibilant.¹

The expression ³*a-x-i-me-a-s(i)* HEAD-*ta-s(a)* in A 7 j 2 can be translated from the context itself as "(be)loved chief." Meriggi in WZKM XL (1933) 250 and MVAG XXXIX 1, p. 103, translates the first word (found frequently in the form ³*a-x-i* in the Assur letters) as "geehrt, hervorragend, erhoben, erhaben," etc.; similarly Bossert in AOF VIII 143, n. 8. By comparison with cuneiform Hittite *asšiqa-*, "love" (cf. Sturtevant, *A Hittite Glossary*, 2d ed., p. 31, and *Supplement* p. 14), we obtain for *x* the value *ši*.

In a list of offerings to various divinities occurs ⁴*x+ra-ku* in the dative (A 11 b 6). By assigning the value *ši* to *x* we can read the name as ⁴*Ši+r(a)-ku* and compare it with that of the deity Zirku identified with Ninurta in Late Assyrian lists of gods.²

¹ Meriggi's argument (RHA IV 102 and 104) that this Karapınar occurrence has to be read as *e-ba-l̄-da* because of such parallel forms as  in 1. 8, which he reads as *e-ba-l̄-n*, can easily be proved to be without foundation. First, it has never been proved that the adjectival-genitival *-l̄* occurring in some Anatolian languages and found by him in these two forms is actually used in the language of the Hittite hieroglyphic inscriptions. Secondly, the sign  certainly does not have the value *l̄* which he assigns to it; when used phonetically at Karapınar it has only the value *s̄x* (HH II 28, n. 1, following Bossert and Hrozný). In the group  representing the well known geographic name Halpa, Meriggi (*op. cit.* p. 102) still reads the second sign as *l̄*. Already in HH I 20 I read the first two signs together as the ideogram for *halpa*, taking *pa* (then read *pi*) as the phonetic complement. The interchange of such forms as *Halpa(pa)-runta-s(a)* in M XVI 1 with *Halpa-runta* in CE XXI (=HJM 46) clearly proves this point.

² Written ⁴*Zi-ir-ki* (*Cuneiform Texts from Babylonian Tablets, &c., in the British Museum* XXV [London, 1909]) 12:9) = ⁴*Zi-ir-ku* in an earlier copy (H. C. Rawlin-

The word for "queen" in a Carchemish inscription is, then, written in the nom. as GREAT.QUEEN-*ši*+*ra-s(a)* (M IX 2) and in the acc. as GREAT.QUEEN-*ši*+*ra-n(a)* (*ibid.* 1. 5). This fem. nominal ending -*širas* may be identical with -*šaraš*, the corresponding ending in the cuneiform Hittite language.¹ In this particular case the value *ša* would match better the parallel -*šaraš*; but that value would not fit into the words discussed above.

The sign for *ši* probably pictures a seal,² as may be seen from the occurrence of   , "the seal of *Halpa(pa)-s(i)*," on bullae published in M XXXIX 3 and 7-9 and HHM 39. According to a well known principle, the phonetic value *ši* should be developed from an ideogram representing a word similar in sound and having the meaning "seal." Such a word—as far as I know—has not yet been found in hieroglyphic Hittite; but it does occur in the form *šiša-*, "to seal" (really "to press"), in cuneiform Hittite.³ This is further evidence for the correctness of the reading *ši*.

Another sign besides *ši* which may contain the consonant *š* is that

son, *The Cuneiform Inscriptions of Western Asia* II [London, 1866] 57:54 c), ⁴*Zi-ni-...* (Cuneiform Texts . . . XXIV [London, 1908] 6:38), and ⁴*Zi-ni-ku* (*ibid.* 23:132 b). In the last two examples the sign *ni* may easily be a miscopy of the very similar sign *ir*.—Meriggi's interpretation of this deity as ⁴*Li-ku* and comparison with an alleged ⁴*Elkuš* named in cuneiform Hittite (RHA II 245, n. 3, and MVAG XXXIX 1, pp. 10 and 137) as well as Hrozný's transliteration *dišuLda^{ur}-gu* and comparison with Tarku (IHH pp. 159, n. 7, and 170) are naturally influenced by their readings of the sign in question.

¹ On this suffix see H. Ehelolf in ZA XLIII (1936) 185 f. The same ending occurs as -*šar* in some fem. personal names in the Cappadocian tablets, e.g. *Hištah-šušar* and *Niwaḥšušar* (as recognized first by A. Götz, *Kleinasiens* ["Handbuch der Altertumswissenschaft," 3. Abt., 1. Teil, 3. Bd.: *Kulturgeschichte des alten Orients*, 3. Abschnitt, 1. Lfg. (München, 1933)] p. 69, n. 2), and in Nuzi names, e.g. ⁴*Amtašar* (E. Chiera, *Joint Expedition with the Iraq Museum at Nuzi. Proceedings in Court* [American Schools of Oriental Research, "Publications of the Baghdad School. Texts," Vol. IV (Philadelphia, 1934)] No. 413:2, 7, 8; also elsewhere), ⁴*Matkašar* (Chiera, *Excavations at Nuzi . . . I. Texts of Varied Contents* ["Harvard Semitic Series," Vol. V (Cambridge, Mass., 1929)] No. 11:11, 12, 20, 22, 29), and ⁴*Aš-du-a-šar* (G. Contenau, *Contrats et lettres d'Assyrie et de Babylonie* [Paris. Musée National du Louvre, "Textes cunéiformes," Vol. IX (Paris, 1926)] No. 22:4), the last corresponding to ⁴*Aš-tu-za-ar* at Chagar Bazar (C. J. Gadd in *Iraq* VII [1940] 36).

² It is listed among vases by Meriggi in RHA IV 93, No. 346.

³ Sturtevant, *A Hittite Glossary*, 2d ed., p. 141, and Güterbock in "Studia et documenta ad iura Orientis antiqui pertinentia" II (1939) 32.

read as *sá* in HH II 30 f. Hrozný too reads it as *sá* or *s₂* (IHH p. 113), Meriggi similarly as *sa* (e.g. MVAG XXXIX 1, p. 3).¹ This is the sign which I here transcribe as *sa*.

A value *sx* was deduced from its occurrence in the name of Carchemish in such forms as *Karka₁(ka)-me-x-ī-s(a)^{citv}* (HH I 27 f.). A more exact value *sa* (used *loc. cit.*) was based on the fact that this sign occurs both with and without a following *a*, e.g. in ⁿ*La+ī-ma-śa-a-s(a)* and ⁿ*La+ī-ma-śa-s(i)* (HH I 28). Such forms as **BREAD** *tu+r(a)-pa-śa-a* (A 1 a 5), **GOD**-*ne-śa-a-n(a)* (A 1 a 4), **VASE** *u-śa-a* (A 11 b 3) or **VASE₂** *u-śa* (*ibid.* 1. 5), and *tu-wa+r(a)-śa-a* (HHM 49 D) also favor the presence of the vowel *a*.

Very instructive likewise are the interchanges of signs in the forms *x₂wa-śa-na-sa-ta* (A 6:9) and *x₂u-śa-na-śa-i-a* (II M LII 5), **GRAND-CHILD-śa-a-s(a)** and **GRANDCHILD-śa-ī** (discussed below, p. 25), ²*a-pa-śa-n(a)* and ²*a-pa-sa-n(a)* (discussed above, p. 17), **BOWL-śa-a-ī¹** and **COURT-ki[+ra]-śa-ī¹** (HHM 9 B 3), in forms of the gen. pl. such as **LAND-ni-ā-śa** (A 3:1 and 3) and **GOD-a-ā-śa** (IHH Pl. CII 2), and in forms of the 2d per. sing. present such as **ROAD-wa-ni-śa** (Assur d Ro 14 and f Ru 19), *u-śa-ta-sa* (Assur c Vu 13) and *u-śa-ta-se* (*ibid.* 1. 17), **LITUUS-na-ta-sa** (Assur g Vo 9) and **LITUUS-na-ta-se** (Assur c Ro 13).

The occurrence of *śa* in the personal name ⁿ*Śa-ka-e+ra-s(a)* (A 7 h), which corresponds to the name Sangara in Assyrian historical sources (HH II 31), makes it clear that this sign corresponds to Assyrian *sa*. But the Late Assyrian sibilants offer problems of their own (cf. p. 22).

We come now to the important sign , which I propose to read as *śu²* on the basis of arguments furnished by Hrozný and Meriggi. This sign is rare, but its reading is facilitated by its occurrence in three hieroglyphic Hittite words which can be compared with corresponding words in other Indo-European languages. These words are: **DOG₂śu-wa-ni-i-ḥa**, "and the dogs" (Assur b Vu 15 f.); **HORN₂śu+r(a)-ni**, "horns" (Assur g Ro 27); and **HORSE ²a-śu-wa-ī**, "horses" (HHM 3:2).³ Hrozný, to whom all three interpretations are due, believes

¹ Previously Bossert read it as *śa* (AOF IX [1933/34] 117, n. 21, Forrer as *si* (HB p. 23). In AJSL LV (1938) 200 f. I read it as *za*.

² My original interpretation of this sign as a compound, *wa+r_x* (HH II 28 f.), could not stand the test of time.

³ See also the remarks in HHM pp. 22 f.

in the centum character of the hieroglyphic Hittite language. On that basis he read the sign here discussed as *kú*, first with question marks, later without them (IHH pp. 128 f., 149, 305, 358; AOr IX [1937] 409; X [1938] 44). Meriggi, having interpreted Hrozný's DOG as SWINE and Hrozný's HORN as FLAME, proposed first the reading *su* (MVAG XXXIX 1, pp. 3 and 11 f., and AOF X 266 f.). Later Meriggi was inclined to accept all three of Hrozný's interpretations but preferred to read the sign in question provisionally as *cu*¹ since he felt unable to decide whether hieroglyphic Hittite belongs to the centum or to the satem group. It has to be remembered that Meriggi's original reading *su* was based not on his belief that the language is satem but on his misinterpretation of DOG as SWINE and his consequent reading of its phonetic complements as "*su-wa-na-i*," "swine." In any event presence of the vowel *u* was considered likely by both Hrozný and Meriggi because of the *wa* which follows in two of the three words concerned.

It is clear from Indo-European etymology that the consonantal sound in the three words above mentioned can be only a plain velar *k* or one of the other sounds, such as *k'*, *č*, *c* or *z(ts)*, *s*, *š*, and *t(th)*, into which that velar can develop. Of these possibilities I would immediately eliminate *k* because the value *ku* has already been established beyond any doubt for a different sign (see HH II 21). The existence of two *ku* signs would be incompatible with the Hittite hieroglyphic system of writing, which, I firmly believe, does not recognize homophony.²

With *k* out of consideration, the sign in question must contain a different consonant. As far as the Hittite hieroglyphic syllabary is concerned, the only likely consonants still to be considered are *s*, *š*, and *z*.³ But *s* is improbable because we have already four *s* signs with their values fairly well established; and *z* is improbable because it

¹ RHA IV 85, No. 178, also pp. 96 and 107 f.

² The signs *nu* (old) and *nú* (new) are used contemporaneously only in the middle period; see above, p. 10.—I know that in the rigorous rejection of homophony I stand entirely alone. Other scholars, such as Hrozný and Meriggi, regularly employ many homophonous values. But I must repeat what I have said many times before, that with only about sixty signs there is no place for either homophony or polyphony in the Hittite hieroglyphic syllabary.

³ The existence of palatal or palatalized velars in the Hittite hieroglyphic syllabary seems most improbable in view of the restricted number of its signs.

usually developed from *t* (see pp. 24 f.). The most likely possibility, then, is *ś*.¹

From my transliterations as *śwanii*, *śurni*, and *ṷaśwaī*² it is evident that I believe in the satem character of hieroglyphic Hittite. I have held this notion for many years, based on my growing belief that the nearest relative of hieroglyphic Hittite is Lycian, a satem language. But the problem did not become crystallized in my mind until the summer of 1941, when I had the opportunity to review the whole matter with Professor J. H. Bonfante of Princeton University. The results of our talks and correspondence will be published shortly in a separate article under our joint signatures.³

We have discussed above seven signs, each beginning with a sibilant. In view of the four-vowel system it is evident that they cannot all contain one and the same consonant; they must, therefore, be subdivided into two groups of related sounds. Each of the four signs *sa*, *se*, *si*, and *su* of the first group is used for the nom. ending; hence they can be safely transliterated with the consonant *s* corresponding to Indo-European *s*.

It is as yet difficult to ascertain the exact character of the three signs of the second group, transliterated as *śa*, *śi*, and *śu*. The chief characteristic that unites them is that they are almost never used to express the nom. ending.⁴ One thing is sure: they cannot represent voiced *z* (as in French *zéro*), because the Hittite hieroglyphic writing does not distinguish between voiced and voiceless consonants. Some hints as to the character of *ś* can be obtained from observation of the use of the *śa* and *śu* signs. The former is used regularly in the adjectival (=gen.) formative *-śas*, as in *Luhīśas nimuwaīs*, "Luhian son" (=son of Luhīs), and in *ṷapasas*, "his," from *ṷapas*, "he." This ending *-śas* is evidently the same as that written *-śšaś* in Luwian⁵ and

¹ On the character of this sibilant see below.

² Really *ṷaśwaī* (as permitted by the writing), because, as Professor J. H. Bonfante informs me, this word is always dissyllabic in Indo-European.

³ Professor Bonfante tells me that delabialized forms such as *kis* (p. 59), *ki-ī-ba* (p. 65), and *ke-ā-te* etc. (p. 66) are normal in the satem languages.

⁴ Of these, only *śi* is used occasionally as the nom. ending; see pp. 16 f. Elsewhere, however, *ś* frequently interchanges with *s*; cf. *tuwarśan* and *tuwarseī* (p. 15), *ṷapasita*, *ṷapaśan*, and *ṷapasan* (p. 17), *uśanaśaśa* and *waśanasata*, etc. (p. 19).

⁵ Forrer in *Zeitschrift der Deutschen Morgenländischen Gesellschaft* LXXVI (1922) 218 ff.

similarly in several other languages.¹ Professor Bonfante suggests that hieroglyphic Hittite -*sas* may be identical with Indo-European -*syos*; if so, hieroglyphic *s* would be a palatal sibilant developed from the original *sy* combination. Comparison of hieroglyphic ¹*Sa-ka-e+ra-s(a)* with Assyrian Sangara (p. 19) may point in the same direction if it can be assumed that Late Assyrian *s* was pronounced as *š*, as is suggested by Assyrian transliteration of West Semitic *š* with *s*.² A palatal *s* would fit well in *suwanii*, *surni*, and ²*ašwaš*, in which *s* stands for an original Indo-European velar.

Our investigation of the sibilants has shown that we have to distinguish between *s* and *š* groups of consonants in the language and writing of the Hittite hieroglyphs. It is as yet difficult to keep these two groups clearly divided because of the frequent interchanges of signs between the two groups. As was observed already in HH II 30 f. and previously in this monograph (p. 15), it is even more difficult to establish the values of the vowels. These difficulties must be kept constantly in mind when and if the values proposed above are used.

 *ta*

 *te*

 *ti*

 *tu*

 *za*

 *ze*

 *zi*

 *zu*

Of the first group above, the first and fourth signs were read in HH II 32 f. as *ta* and *tu*. The proofs in favor of the reading *ta* for the first

¹ This problem will be discussed in another publication.

² See Tallqvist, *Assyrian Personal Names*, pp. xviii f.

sign are ironclad.¹ For this reason the second and third signs cannot have the value *ta*, and I was satisfied in HH II to give them temporarily the values *tx* and *tx̄*. Since then I have collected some examples which favor the readings *te* and *ti*:

1. ^d*Te-mu-ri-na-ḥa* in a Tell Ta'yināt inscription (HHM 58, frag. 2:4) probably corresponds to the deity Timuri mentioned at Nuzi (see p. 14).
2. ^d*Tu-te-ā-s(a)* of the Jisr el-Hadid inscription HHM 30:2 may correspond to ^d*Tu-ti-[. . .]* in a fragmentary cuneiform inscription from Boğazköy.²
3. The personal name *He+r(a)-ti-pu-s(a)* of the Kara Dağ inscriptions corresponds to ^m*Her-ti-pu-u* in Assyrian sources.³

These correspondences show that there is still no definite proof that  is *te* or that  is *ti*. The opposite may possibly be true; cf. the interchange of other syllables containing *e* and *i*, e.g. *ke* and *ki*, *ne* and *ni*, and *ze* and *zi*. Against the cuneiform evidence the first of these two signs is read as *te* (not *ti*) chiefly because the transliteration *Mu-wa-te-li-* or *Mu-wa-te-le-* approximates cuneiform Muwattalli more closely than does the transliteration *Mu-wa-ti-li-* or *Mu-wa-ti-le-*.

Of the four signs in the second group the first three were read as *ti?*, *ke?*, and *ki?* respectively in HH II 33 and 19–21, while the fourth was left unread (*ibid.* frontispiece). The existence of at least five signs containing *t* or the like had led me in HH II to give up the readings *te*

¹ Meriggi's suggestion in RHA IV 105, based on comparison with other Indo-European languages, that the "foot" sign has the value *ti*, rather than *da* as he reads it elsewhere, is in direct contradiction to the facts and examples gathered in HH II 32 and can hardly be taken seriously. As far as I can see, Meriggi himself does not apply his newly proposed value anywhere in his studies. His further assumption (RHA IV 105 f.) that the vowel of the suffix of the 3d present ending is silent is refuted by such spellings as *x si-ne-ta-a* (M II 6) besides *sa-ni-ta* (HHM 20 edge) or *sa-ni-ta-a* (HHM 21:2) and *a-i-a-ta-a* (CE VII 3) besides *a-i-a-ta* (HHM 40:6).

² E. O. Forrer, *Boghazkōi-Texte in Umschrift* II ("Wissenschaftliche Veröffentlichungen der Deutschen Orient-Gesellschaft," No. 42 [Leipzig, 1926]) 4B iii 27 = *Keilschrifttexte aus Boghazkōi*, autographiert von H. H. Figulla, E. F. Weidner, etc., 3. Heft (in "Wissenschaftliche Veröffentlichungen der Deutschen Orient-Gesellschaft," No. 30 [Leipzig, 1916–23]) No. 19:27.

³ AJA XLI 290; see also above, pp. 5 and 10f.

and *tu* proposed for  and  respectively in HH I 35 and to suggest the new readings *ke?* and *ki?* chiefly because hieroglyphic Hittite ^{no}*A-sa-tu-wa-x-ma-i-sá-a* and ^{no}*A-sa-tu-wa-y-ma-i-sd¹* seemed comparable to Assyrian ^m*As-ta-kú-um-me* (see below, p. 30).

With my belief that the Hittite hieroglyphic syllabary has a four-vowel system, the very occurrence of more than four signs in the *t* group made it seem very unlikely that all the signs contained the sound *t* proper. In the meantime it had become increasingly apparent to me that my readings *ke?* and *ki?* would have to be modified and that my original readings as proposed in HH I were nearer the truth than the new ones suggested in my second study. Thus the occurrence of at least seven signs in the *t* group made it doubly sure that it must be subdivided into two groups of related consonants. As explained below, I now transliterate these with *t* and *z* (= *ts*) respectively.

Of the four signs of the second group by far the most important is , read as *ti?* in HH II 33. Choice of the vowel *i* was based on a questionable comparison of *huha(ha)-ti?-li-s(a)* (A 11 b 1) with cuneiform Hittite *hubbantiš*. The vowel *a*, accepted by Hrozný in his transliteration *ta₂* and by Meriggi in his *ta*, can be proved in various ways:

1. The *za* and *ta* signs interchange in **x u-pa-ta-a-za-sa-n(a)** (II M LII 1) and **x u-pa-ta-ta(-a)** (Hrozný, IHH Pl. CII 3 and 5; comparison made *ibid.* p. 61, n. 2); **x-ta-ā-za-ī** (A 11 b 6) and **x-ta-ā-ta-ā-ī-ha** (A 11 c 4; comparison made by Hrozný, IHH p. 171, n. 1); **ti-za-li-s(a)** (A 11 b 1) and **ti-ta-a-s(a)** (II M LII 3); **huha(ha)-za-li-s(a)** (A 11 b 1) and **huha(ha)-ta-i-ha** (A 11 b 3).

2. The forms **RIVER.LAND-za-a-s(a)** (M III B 2) as compared with **RIVER.LAND-za-s(e)** (M IV A 2) and **za-ā** (A 6:8 and 9) as compared with **za-ha** (A 7 a 2) present the syllable *za* followed by *a* or without it.²

The value *za* is best proved by comparing a passage in the Sultanhani inscription: **GOD-ni-a-i arha(ha) ³a-za-tu-u** (HHM 49 C),³ with a

¹ Here *x* and *y* stand for *zi* and *ze* respectively; see below, p. 30.

² The fact that this is the most common of the four signs containing *z* also favors the vowel *a*; cf. HH II 30 and 32.

³ Neither Meriggi (RHA II 245) nor Hrozný (IHH p. 292) in treating this passage has recognized this form, although the latter, reading *ā-tu-ā-ta₂*, "le dévoreront (? feront dévorer?)," has found from the context the correct translation.

parallel formula in a Carchemish inscription: *dog-ni-a-i . . . arba(ha) EAT-tu* (A 6:9). The clear parallelism of *²a-za-tu-u* with *EAT-tu* necessitates for these clauses the translation “may the gods (or ‘dogs’) eat away.” However, more important than the translation is the correspondence of hieroglyphic Hittite *²a-za-tu-u* with cuneiform Hittite *e-ez-za-an-d[u]*.¹ The hieroglyphic form *²a-za-tu-u*, pronounced *²alsantu*, is, then, to be analyzed as *at-sa-ntu*, i.e., *at-*, “eat,” plus formative *-sa-*² plus the 3d per. pl. imperative ending *-ntu*.³

Read in the most natural order we find in A 11 b 2 *wa-n(a)-e* ^{n volute}*Tar̄hu-t(i)-sa-̄i* GRANDCHILD-*sa-̄i* LITUUS.HAND-*n(e)* COURT *pi-te-ha-li-ā-ha*, “and it I rebuilt (or the like) for the Tar̄hunitian grandchildren.” Similarly in A 11 c 5 we have ^{n volute}*Tar̄hu-t(e)-sa-̄i* GRANDCHILD-*sa-̄i*.⁴ The forms ^{n volute}*Tar̄hu-t(i)-sa-̄i* and ^{n volute}*Tar̄hu-t(e)-sa-̄i*, each pronounced *Tar̄huntsāi*, are dat.-loc. pl. (see below, p. 44) of *Tar̄huntsāi*, “Tar̄hunitian,” and when compared with the nom. sing. ^d*Tar̄hu(hu)-za-̄i-s(a)* in II M XXXIV A 1 show interchange of the combinations *t(i)-sa* and *t(e)-sa* with the *za* sign.

Since the signs  and  interchange with each other (HH I 35 and II 19) they must contain related vowels. But my previous readings were inexact (cf. pp. 23 f.). Meriggi in his review of HH II spoke

¹ In KUB IX 31 iii 2; analyzed by Sturtevant, *A Comparative Grammar of the Hittite Language* (Philadelphia, 1933) p. 246, as 3d per. pl. imperative from *et-*, “eat,” plus formative *-sa-*, for cuneiform Hittite *z* is sounded as *ts* (see *ibid.* pp. 71 f.).

² On this see my EHH.—A form *²a-ta-te* without *-sa-* is discussed below, pp. 64 f.

³ An *n* before a consonant is usually omitted in the writing; see my EHH.

⁴ The word for “grandchild” or “grandson,” unrecognized hitherto, is *ḥamašas* or *ḥamasas*. Cf. CHILD *ḥa-ma-ša-s(a)* (HHM 28 A d), CHILD *ḥa-ma-ša-š(i)* (*ibid.* B c; previously not clearly copied in CE XVIII), and GRANDCHILD! *ḥal-ma-ša-s(i)-e* (I M XXI 2, collated by myself). Occurrences without ideogram in the phrase *ni-mu-wa-i ni-pa-wa ḥa-ma-ša*, “to(?) the son or grandson” (CE V 2 and 3) settle it definitely that *ḥamašas* is the full word. On interchange of *ša* and *sa* see above, p. 19.

Since *ḥamašas* is an *a*-stem noun (cf. e.g. GRANDCHILD-*ša-a-s(a)* in A 11 b 1), it is unjustifiable to take the last two signs in this word and its modifier in A 11 b 2 and c 5 (see text above) in the inverted order *-i-s(a)*, as does Meriggi (MVAG XXXIX 1, pp. 38 and 56). Hrozný, who inverts the order of signs in the modifier only (IHH pp. 166 and 175), translates A 11 b 2 as “et que je l’ai introduit (? en-seveli??) dans le vestibule(?) près du petit-fils de . . . -Santa(jas(?)); Meriggi, more simply, as “und (ich, der) Santa(sche) Enkel, habe sie wieder überdacht.”

against my values *ke?* and *ki?* and considered my original readings *te* and *tu* nearer the truth (OLZ XXXIX 158). Later (in RHA IV 105) he suggested that these two signs might contain *z* (*ts*). Several examples indicate that they have actually the values *ze* and *zi*.

Occurrence of  *ze-e-s(a)* (M I 3) as well as  *ze-s(a)* (HJM 4 C) favors the reading of  with the vowel *e* (so already HJM I 35). The value of its consonant is suggested by the following examples:

1. The clause *e-wa te-ne-me anta-e FEET₂tra(ra)-pa-ze* in A 6:4 I would translate "and into the *tenemes* he turned."¹ Hrozný² and Meriggi³ likewise take the verb to be 3d per. sing. preterit. The form *trapaze* evidently corresponds to the form *ajate*, *ajati*, or *ajaza*, "he made," which occurs frequently.

2. If the translation of *wa-mu-ti ⁴Ku-papa(pa-pa)-s(a) FOOT₂pa-ze-e HAND-me-a-n(a) za-a* in A 15 b**² as "and from me Kupapas takes the strength(?) of (my) feet(?)"⁴ were sure, then we could analyze the form *paze* as *pat-se*, i.e., the root *pat-* plus *-se* for the gen. pl. ending usually written *-sa* or *-ša*.⁵

If the sign discussed above has the value *ze*, then  with which it interchanges, should have the value *zi*.⁶ Strange as it may seem, additional evidence for this assertion comes from the Tarkondemos seal. This is no place to give a complete history of the various readings of this infamous seal. But a short review of the latest attempts at its decipherment may be welcome here in order to show the progressive steps by means of which the final solution of the problem may have been reached.

¹ On *trapa-*, "to turn," see above, p. 8.

² IHH p. 186: "Lorsqu'il est entré auprès des images(?)".

³ IF LII 46. In RHA IV 106 he took into consideration the 3d per. sing. present also, for reasons in which I cannot follow him, and cited another possible, but questionable, form with the same ending in Karapınar line 3. He also brought correctly into comparison the cuneiform Hittite ending *-zi* < *-ti.

⁴ Hrozný, IHH p. 178: "Et à moi, la déesse *Kupapas* enlève la force(?) au(x) pied(s)."'

⁵ See above, p. 19, where the interchange of *-sa/-se/-ša* for the ending of the 2d per. sing. present is also cited.

⁶ On the difficulty of distinguishing clearly between syllables with *e* and those with *i* see pp. 23 and 64, n. 1.

In HH I 34 I read the cuneiform as ^m*Tar-qu-u-tim-me šar māt ali Me-ra* and the hieroglyphic legend as *Tarku-tu+me Me+ri-e* "land" "king." In HH II 14 and 26 I improved the decipherment of the geographic name by reading the cuneiform as *Me-ra+a*, the hieroglyphic as *Me+ra-e*, and by comparing both with Mérâ or Mîrâ, a country well known in the Boğazköy cuneiform sources.

However, the reading of the name of the owner of the seal could not be improved so readily. Meriggi at first argued against the reading ^m*Tar-qu-u-tim-me* for the cuneiform and followed Albright's reading ^m*Tar-qu-mu-wa*.¹ The first two hieroglyphic signs he read ideographically as TARQU-MUWA.² Later his partial acceptance of my earliest readings of as *te* and *tu* forced him to give up his reading MUWA for the second sign of the name, and he chose to follow me in taking that sign not as an ideogram but as a compound, *di+mi*, so that his reading of the name became TARGU-*di-m[i]*.³ In the meantime, however, I gave up my old readings *te* and *tu* and proposed the new ones *ke?* and *ki?*. Simultaneously I was forced to reject my old interpretation of the name on the seal,⁴ and in my new reading of the hieroglyphic as *Tarki(ki)+me?* I naturally followed Albright's reading of the cuneiform as ^m*Tar-qu-mu-wa*, even though the vowels did not agree with each other.

In proposing a new and, I hope, final interpretation of the Tar-kondemos name I read the cuneiform as ^m*Tar-qu-u-tim-me*⁵ and its hieroglyphic counterpart as *Tarḥu-zi*. Reasons for reading the "goat's head" (cf. p. 15) as *Tarku* were given in HH I 34, and they were found convincing by Meriggi also (RHA II 32). The only possible improvement here would be to read *Tarḥu* instead of *Tarku* in agreement with Tarḥuns, the name of the chief god of the hieroglyphic Hittite people. The main difference between my former reading and

¹ This reading as well as *Me-ra* was first suggested by Albright in AOF IV (1927) 137 f.

² RHA II 32 f.; cf. OLZ XXXV 564.

³ MVAG XXXIX 1, pp. 7 f., n. 2, and 157.

⁴ HH II 20.

⁵ As in my first attempt in HH I 34.

the new one lies in the interpretation of the second sign, which I formerly took as a ligature, *tu+me* (HH I 34) or *ki?+me* (HH II 20). Meriggi followed me in this assumption in his later reading *di+m[i]*, in spite of his own observation that the six little strokes above his *di* are abnormal. In reality one would expect the compound *zi+me* to be written  , just as   expresses *a+me* (HJM 15:3 and 4).

That the second sign on the Tarkondemos seal is not a compound, *zi+me*, but is an old form of *zi* alone is proved definitely by comparison of   in the Suvasa inscription (HJM 50 C=IHH Pl. LXVII C) with   in the younger inscription from Eğriköy (CE XIII=HJM 19 A 1 and 2), for in the former the six small strokes form part of the sign.

Furthermore, not only the signs and words but even the phrases in which they occur agree with each other. The personal name  , *Tarhu-zi*, of the seal corresponds to the expression       , ¹*Tarhu(hu)-ta-a-s(i)  *, of the Eğriköy inscription.¹ The abbreviated writing in the first case as compared with the longer form in the second is self-explanatory in a seal legend (cf. p. 10).²

The new reading *Tarhu-zi* for the name in the hieroglyphic legend can be brought into agreement with the cuneiform ^m*Tar-qu-u-tim-me* if we take into account the interchange of such forms as   (*Eğriköy*) and    (*M I 3*), which might suggest an original pronunciation **zi²es* or **ze²es*. This in turn, by way of **ziwes* and **zimes* and omission of the nom. ending *-s*, may correspond to cuneiform *tim-me*.³

¹ Cf. also *Tarhu(hu)-ta-a-s(a)   -s(a)* of the Çiftlik inscription (HJM 17 rev. 2).

² The name would mean "descendant of Tarhuns," following Meriggi's translation of its second element as "Nachkomme" (MVAG XXXIX 1, p. 160). His new interpretation connecting the latter with Latin *divus* (RHA IV 105) has not yet been substantiated.

³ As so often in cuneiform writing, the spelling *tim-me* in this case does not presuppose a double consonant, which would be assured only by such a spelling as *ti-im-me*. The Greek form Tarkondemos also favors the spelling with single consonant. The spelling with *t* in cuneiform and with *d* in Greek shows that hieroglyphic Hittite *z* was in this case at least nearer a dental than an affricate.

Recapitulating, then, I read the Tarkondemos seal as follows:

The cuneiform legend: ^m*Tar-qu-u-ti(m)-me šar māt* ^o*Me-ra+a*

The hieroglyphic legend: *Tarḥu-zi Me+ra-e* LAND KING

The translation: "Tarḥu-zi, king of the land of Mērā."

The most probable translation of the phrase ^d*Ku-papa(pa-pa)-ā* ⁿ*A-ze-CHILD-la-s(i)* HEAD-*n(a)* LEG-*nu-*∅-*e* in A 18 j is "Azelas brought for (or 'offered to') Kupapas." The phonetic nature of the sign here pictured was first recognized by Bossert, who questioningly proposed its correspondence with *wa*, *ba*, or *wa-ha* (AOF IX 110, Fig. 11:6 and n. 5). Meriggi at first took the verb to be passive, without offering any reading of the unusual sign (WZKM XLI 26), then suggested the reading *dú* and proposed to take the form as 3d per. imperative active (cf. *loc. cit.*; MVAG XXXIX 1, pp. 3, 12,¹ and 100; RHA IV 91, 96, and 98, n. 15). In either case a value with *t* or similar seems indicated. Even though some of Meriggi's arguments seem untenable to me, still there are sufficient grounds to justify approximately his reading. Only I would like to change his *dú* to *zu* to avoid a case of homophony. However, because this sign occurs so rarely, its value cannot be tested elsewhere.

In résumé of the foregoing it can be said that there are eight syllables which could contain *t* or a related sound. Hrozný reads with *t* all these signs (except the eighth) as well as many others which in my opinion have to be read differently.² Meriggi on the other hand reads five of them with *t* and three with *d* (e.g. in MVAG XXXIX 1, p. 3). However, my disbelief in homophony as well as in the distinction of voiced and voiceless consonants in Hittite hieroglyphic writing prevents me from reasoning as they do. Yet it is clear that with a four-vowel system these eight signs must, like the seven *s/s* signs, be separated into two groups containing related consonants.

The first group—*ta*, *te*, *ti*, and *tu*—contains clearly *t*. At least I myself feel that those readings are safely established, even though minor differences in interpretation still persist among scholars.

¹ Where he mentions the occurrence of a possible variant form of the same sign in Assur e Ru 11.

² Eight different *ta* signs of his were noted in HH II 33, n. 1. Two more are *ta₆* (the leg; IHH p. 200, n. 6) and *tā?* (what I read as *tra(ra)*; *ibid.* p. 363, n. 16, and p. 390, n. 5).

Already in 1931 I suggested (in HH I 16) that because of the large number of signs containing *t* or similar (five so interpreted at that time) hieroglyphic Hittite may have had and expressed the sound *th* alongside of *t*. In 1937 Meriggi in turn, because of the disturbingly great number of signs apparently containing *t* or *d*, suggested that some of them may express rather the spirant *th/dh* or the affricate *ts/dz* (RHA IV 105). That the sound concerned is really the affricate *z* (*ts*) is evident from the material gathered above: (1) hieroglyphic Hittite ²*a-za-tu-u*, "may they eat," analyzed as ²*at-sa-ntu* by comparison with cuneiform Hittite *e-ez-za-an-d[u]* (pp. 24 f.); (2) hieroglyphic Hittite dat.-loc. pl. forms ^{n volute}*Tar̄hu-t(i)-sa-ī* and ^{n volute}*Tar̄hu-t(e)-sa-ī* compared with nom. sing. ^d*Tar̄hu(hu)-za-ī-s(a)* (p. 25); (3) hieroglyphic Hittite verbs FEET₃*tra(ra)-pa-ze*, *ajaza*, *ajate*, *ajati* showing endings cognate with cuneiform Hittite *-zi(< *-ti)* (p. 26); (4) hieroglyphic Hittite *paze* analyzed as *pat-se* (*ibid.*).

As to the nature of the sound *z*, it has been noted above that it often stands for original *t*, as in *trapaze*, with the ending *-ze* for the usual *-te* found in *ajate* (see above), or even in *tizalis*, "paternal," based on *titas*, "father" (p. 24). In other cases *z* seems to interchange with *s*; compare (1) **OPPOSE-za-ta**, "he/they will oppose" (HHM 5 C and 6 C 3), contrasting with **OPPOSE-le-sa-tu** and **OPPOSE sa-le-sa-tu**, "may he/they oppose" (M XI 5 and A 14 b 5), forms with infix *-sa-* analogous to ²*at-sa-ntu* discussed above (p. 25); (2) the ideogram for "exalted" or the like followed by *-za-me-s(i)* in HHM 6 B 1, whereas the word normally ends in *-sames*, as evidenced by oblique cases ending in *-sa-me-a* (A 11 a 5 and c 6) and *-sa-ma-ī* (M XI 3).

Much more difficult is the problem of the relationship of the hieroglyphic Hittite personal name written ^{n²}*A-s(a)-tu-wa-zi-ma-ī-śa-a* and ^{n²}*A-s(a)-tu-wa-ze-ma-ī-śa* (A 11 a 1 and b 1 respectively; cf. A 14 b 1 and CE XXV 2) to Assyrian ^m*As-ta-kú-um-me*,¹ compared in my HH II 20 in an attempt to prove the values *ki?* and *ke?* for the two signs which I now read as *zi* and *ze*. The reason why I hesitate to give up this equation lies in the fact that hieroglyphic Hittite seems to offer another case of *k/z* interchange. The Karapınar inscription contains

¹ The vowel *u* in Assyrian instead of the expected *i/e* could naturally be explained by the proximity of *m*.

two forms, COURT_{sc}-*ki* (OLZ XXXVII 147:5; dat.-loc.)¹ and COURT-*ki-n(a)* (*ibid.* 1. 8; acc.), for which no better comparison can be offered than COURT-*zi-i* (A 11 c 2; dat.-loc. pl.) and COURT-*ze-i* (HHM 49 A 1; dat.-loc. pl.).² In Lycian there are indeed numerous cases of interchange of *k* with sibilants and palatals.³

◦?◦ wa
 ՞ we
 ՎՎ wi
 ? wu

The first three signs were thus interpreted in HH II 33–36, except that the second sign, read there as *wx*, is here given the value *we* because of its frequent interchange with *wa*. Comparison of the Mālatyan royal name written *We-la-runta* or *We-la-ruata* in hieroglyphic Hittite (M XVI A 2) and *Hilaruada* or *Helaruada* in Urartian inscriptions (JRAS, 1882, pp. 582:6 and 642:2) likewise favors this reading.⁴ It is possible that there is no special sign for *wu* and that the sign *u* is used to express this syllable also.

SIGNS OF UNKNOWN OR VERY UNCERTAIN VALUE

In the following pages are discussed the remaining signs of the Hittite hieroglyphic syllabary—signs whose readings are either entirely unknown or for which at best only suggestions can be offered. Every statement in this section must be regarded as tentative. In reality, I would as lief have omitted this entire section had it not been

¹ Photographs at my disposal of both original and squeezes confirm Bossert's copy against Hrozný, who reads with *tang* (IHH p. 369, n. 1).

² Other forms are given by Meriggi in MVAG XXXIX 1, p. 102.—This word is of course different from the word *teskiras*, written with the same ideogram, discussed below, p. 62.

³ See examples cited by F. W. König, "Die Stele von Xanthos," *Klotho* I (Wien, 1936) 35 ff.

⁴ Identification proposed by Meriggi in OLZ XXXVI 82, abandonment suggested in RHA IV 103, n. 29. Cf. also Bossert in AOF IX 331 f. and Hrozný, IHH pp. 103 and 494 f. On interchange of *w* and *h* cf. Nikarawas/Nikaruhas and Tuwana/Tuhana discussed in my HH II 16.

for the fact that systematic treatment of the whole syllabary requires discussion of even the most doubtful signs and problems. However, all such discussion will be kept as brief as possible.



From comparison of such identical forms as $\mathbf{x} \cdot \mathbf{x} \succ wa \cdot x + ra \cdot ma$ (Assur a Ru 7 f.; again, with *e* at end, in Assur g Ru 9 f.), $\mathbf{x} \cdot \mathbf{x} \succ wa \cdot e + ra \cdot ma$ (Assur b Vu 4 f.), $\mathbf{x} \cdot \mathbf{x} \succ wa \cdot e + ra \cdot ma \cdot a$ (Assur c Ro 10 f.), and $\mathbf{x} \cdot \mathbf{x} \succ wa + ra \cdot ma \cdot e$ (Assur a Ru 17 f.) we see that *x+ra* interchanges with *e+ra* (read as *ra*; cf. p. 11) and with *ra* alone. The sign here in question never appears without the tang, and the two together should have a value similar to *ra*.

Meriggi's reading *rpa* was based on the assumption that in BREAD--*sa-n(a)* (A 11 a 4) the untransliterated sign would have the value *rpa* because the word for "bread" is *turpas*. Meriggi identified that sign with *x+ra*, which he considered a combination of   (WZKM XL 270, n. 1; MVAG XXXIX 1, pp. 2, 3, 27, 64). He read the Assur forms cited above as *warp(a)ma* and (through elision and contraction) *warma* (AOF X 125). However, since the forms with *e+ra* (pronounced *ra*, not *r(a)*; cf. p. 11) prove that the word is pronounced *warama*, not *warma*, this ingenious explanation is ruled out.

Hrozný reads the sign or signs in question, plus the tang, as $\dot{e}^{(r)}$ and assumes the same combination of elements (cf. p. 7) as does Meriggi.

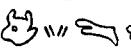
The comparison between HOUSE₁-¹ $x^1 + ra \cdot n \cdot u \cdot w[a \cdot ha]$ in I M XIII 2:2 and HOUSE₂...¹ $ha + ra \cdot na \cdot wa$ - in an unpublished text cited by Meriggi in MVAG XXXIX 1, p. 116, could become very important if the readings of the individual signs could be ascertained in both cases.



The phonetic nature of this sign was first recognized in HH II 31 f. from such occurrences as *x-x-śa* (Assur a Vo 10, b Vo 7, d Vo 10), *x-x-nú* (Assur f Vo 30), *x-x-la* (II M XLVIII 3), and *x-x-a-te* (HJM

¹ Nothing missing? Cf. p. 13, n. 4, on meaning of the compound ideogram mark.

49 A 1).¹ In form this sign seems to be identical, at least at Assur, with the sign for "child" in CHILD-*ni-n(a)* (Assur e Ru 22, g Vu 23) and related forms (Assur e Ru 29, f Ro 6).² But  occurs side by side with  in the Suvasa inscription (HJM 50 C). The first word may be identical with that first mentioned above; the second is without doubt the word for "child." At Suvasa, then, the identification of these two signs seems impossible.

A royal name written  on the Sirkeli monument (HJM 48) and on two bullae from Boğazköy³ is interpreted as Muvat(t)alli by Güterbock⁴ and Hrozný.⁵ The first sign is clearly *u*, the second *me*, the fourth *li*; the third sign too should be phonetic, but to all appearances it is the sign for "child."⁶ Originally I read the whole name as *U-me-ne_x-li* and identified it with that of the Hittite king Urhi-tešup⁷ written  on bullae from Boğazköy,⁸ which I would read as *Umene* + ideogram mark + *li*.⁹ Lately Güterbock has again discussed this personal name; but in place of his impossible former reading *Mu-va-ta-li* he proposes now *Mu*(written *u-me*)-*ta-li*.¹⁰ This interpretation looks reasonable in view of the fact, referred to by Güterbock, that the normal sign *mu* seems to be a compound, *u+me*. The "hand" sign which to Güterbock represents *ta* he identifies tentatively with Meriggi's *ta* (my *za*). The same sign *x* occurs in the word for "temple,"

¹ Meriggi reads the first two signs in these words ideographically as KIND-KIND (MVAG XXXIX 1, p. 132). Hrozný now reads them phonetically as *p/bá-p/bá-* (AOr IX 415 and X 36).

² The same sign occurs in *x-a+ra-e* (Assur b Ro 5) or *x-a+ra-a* (Assur e Ro 25).

³ Published by H. G. Güterbock in MDOG No. 75 (1937) p. 57.

⁴ *Ibid.* pp. 56-60; AAA XXIV (1937) 68.

⁵ IHH p. 500.

⁶ Hrozný *loc. cit.* takes it to be the sign read by myself as *za* (p. 22).

⁷ So provisionally in HJM p. 37.

⁸ K. Bittel and H. G. Güterbock, *Boğazköy* (Abhandlungen der Preussischen Akademie der Wissenschaften, 1935. Philos.-hist. Klasse, No. 1 [Berlin, 1935]) pp. 64 f.

⁹ The reading *umene-* was last discussed in HH II 24.

¹⁰ *Siegel aus Boğazköy*. Erster Teil (Berlin, 1940) pp. 22 f.

VOLUTE.HOUSE-*x*, in the old inscription from Köylütolu Yayla (HJM 41:3),¹ evidently equivalent to GOD.HOUSE-*za* in the later Carchemish inscriptions (e.g. A 7 a 2).²



From a tentative comparison of *x-tu-ma-ni-a-n(a)*^{city} in the Darende inscription (HJM 18 C 4) with *Šu-tu-um-ma-na-aš* in a Boğazköy inscription I inferred the syllabic character of the first sign (HJM II 32). Although the reading of the hieroglyphic word is not sure,³ the syllabic character of its first sign can now be definitely proved from its occurrence in the words *Za-x-na*^{land} (M XXX C) and *x-lu-na-se-x* (HJM 34:2).⁴



In *x_cx+r(a)-li-ha* (A 12:4), *x+r(a)-ma-na-wa-na-s(a)-pa-wa*^{city} (A 15 b** 2), *x+r(a)-li-n(a)* (Assur d Ro 1), *x+r(a)-na-wa-i-s(a)-wa* (Assur e Vo 4 f.), and *x+r(a)-na-wa+r(a)-s(a)* (Assur g Vo 17) the unread sign at the beginning of each word has a syllabic value. This sign is always accompanied by the tang. Comparison of *x+ra-na-wa-ni-s(a)*^{city} (CE V 2 and 3) with the geographic name usually written *Ha+ra-na-wa-ni-s(i)* (HJM 49 B) or the like and other considerations in which I cannot follow him led Meriggi to draw the conclusion that the initial ligature in the first of these two examples is an older variant of that in the second (MVAG XXXIX 1, pp. 52 and 119). He is now inclined to change his value *hār* (*ibid.* p. 3 and RHA IV 96) to *hor* (RHA IV 109).



On the basis of such forms as *wa-me-x-ha* (A 15 b*), *wa-me-x-te* (CE V 1), and *wa-me-x-ša* (Assur g Vo 7) the syllabic nature of this sign was

¹ Similarly in HJM 37, from Karga.

² On interchange of the signs VOLUTE and GOD see my EHH.

³ Meriggi reads TIERKOPF-*ma-na-a-an*^{strn}, placing the *tu* with preceding signs to make *e-wa-tu* (MVAG XXXIX 1, p. 30). Hrozný takes the first sign to be the head of a horse, fully complemented by *Tu-ma-na-a-n*, and suggests identification of the city with Tumanna of the Boğazköy sources (IHH p. 492).

⁴ This has now been recognized by Meriggi in RHA IV 91, No. 298 = *ibid.* p. 95, No. 416.

recognized already in HH I 15. The reading *rx* proposed there was without foundation, and for that reason the sign was left unread in HH II (frontispiece). Whenever this sign is used ideographically it is transcribed with Latin "lituus" (HH II 8, n. 4). Meriggi's syllabic reading as *ap* (WZKM XLI 24, 25, n. 2, 30, n. 2, 37, n. 1; MVAG XXXIX 1, pp. 2 and 13; RHA IV 101) and Hrozný's suggestion of *e₃* (IHH pp. 146, n. 7, 250, 267), later changed to *āp* (IHH pp. 338 and 347), are incompatible with the system of the Hittite hieroglyphic syllabary as I understand it.

Besides the foregoing five signs those discussed below may likewise lay claim to syllabic character. Their occurrences, however, are so rare, and in many respects so uncertain, that they cannot be included among the signs of the normal Hittite hieroglyphic syllabary.

In the unique occurrence -- in a Carchemish inscription (A 11 b 4) Meriggi interprets the pictured sign as syllabic (MVAG XXXIX 1, pp. 43 and 174; RHA IV 93, n. 7).¹ According to him the same sign occurs, but without tang, in Assur e Ro 13 and 22.

In the geographic names *E-*-LAND-*wa-na-ta*^{city} (A 15 b** 4), *E-*-[LAND]-*wa-ni*-[*s(a)*]^{city} (HHM 10:3), and *E-*-LAND-*wa-ni*-*ā-n(a)-e*^{city} (*ibid.*) the untransliterated sign has a phonetic value² and may, as here, carry the tang. The same sign appears in the Karapınar inscription (OLZ XXXVII 147:3 and 4) and perhaps in the hieroglyphic legend on a cuneiform tablet from Boğazköy.³

Very doubtful is the occurrence of CHILD-*ni*--*wa-e+ra* in a Tell Aḥmar inscription (IHH Pl. CII 1). Hrozný reads the pictured sign as *muva* (IHH p. 466), Meriggi as *mú?* (RHA III 52).

The untransliterated sign in . . . -*me-*- . . . (HHM 9 B 1) appears to be phonetic, but because of the broken context it is impossible to draw any safe conclusion. The same sign may possibly be used phonetically at Suvasa also (HHM 50 C).

¹ Hrozný (IHH p. 168) tentatively identifies this sign with the one I read as *si*.

² As recognized by Meriggi in RHA IV 86, nn. 16 and 17.

³ Sayce in JRAS, 1912, p. 1036 = Götze, *Verstreute Boghazköi-Texte* (Marburg, 1930) No. 87.

The word *se--ka-ta* (HHM 41:3), interchanging with *se-la-ka-za-a* (II M L 2; IHH Pl. LXXVII 2(?), 3, 5, 6) and *se-le-ka-za-a* (IHH Pl. LXXXIV 3; thus copied by Hrozný, but doubtful), may contain an unknown syllabic sign. It seems more probable, however, that the sign in question¹ is simply an older variant of *le*, which in the later period usually has "ears."

In the word      in inscriptions from Tell Ahmar (RHA III Pl. 4:6) and from Boybeyipınarı (HHM 5 C) the first sign after the ideogram is probably to be read syllabically.²

This list could easily be enlarged by such signs as  (I M X 2),  (Assur d Vo 3 and HHM 49 A 3),³ and  (Hogarth, *Hittite Seals*, No. 308), which may, in certain rare cases, have phonetic values; but it is safer perhaps to stop here before becoming completely submerged in the dangerous problems of *hapax legomena*.

LOCAL SIGNS

Outside the normal syllabary there are some syllabic signs used only locally. For instance, certain signs—, *u*;⁴ , *mu*;⁴ , *wa*;⁵ , *wa*⁶—seem to occur at Karapınar (Topada) only. Others—, *sx*,⁷ and , *sx*⁸—are found both there and at Suvasa. The sign , *ma*,⁹

¹ This sign appears also in the word *se-x-ka-* on seal impressions from Boğazköy published in MDOG No. 74 (1936) p. 75, Abb. 53 d and e, and in the name *xA-pa-x* on another seal (*Proceedings of the Society of Biblical Archaeology* XXVII [1905] opp. p. 254, Nos. 8 f.).

² Thus Meriggi in RHA IV 79, No. 54. Hrozný identifies it with the certainly different sign *si*, which he reads as *sa* (IHH pp. 325 and 485 and AOr XI [1939] 5, n. 2).

³ Could this be the cursive form of the bird sign discussed on pp. 37 f.?

⁴ Bossert in AOF VIII 303.

⁵ Hrozný, IHH pp. 353, n. 1, 356, n. 1, 362, n. 9, 371, n. 2; Meriggi in MVAG XXXIX 1, p. 4, and RHA IV 88, No. 233.

⁶ Hrozný, IHH p. 370, n. 7; Meriggi in RHA IV 90, n. 2.

⁷ Hrozný, IHH pp. 359, n. 3, 361, n. 9, 365, n. 1, 382-84; Meriggi in RHA IV 95, No. 393, and 96; for use at Suvasa see also HHM 50 B and C.

⁸ See p. 17; for use at Suvasa see HHM 50 B.

⁹ Hrozný, IHH p. 383, n. 4; Meriggi in RHA IV 91, No. 301.

appears at Suvasa alone. The sign , *wa*,¹ is common in the Kayseri inscription; Meriggi² identifies it with  used in the word *a-mu-x* at Karapınar (l. 2) and on a seal (M XLI 2). In the Kayseri inscription occur  and  (latter used in Çalapverdi inscription HHM 16:1 also), with the values *a* and *ā* respectively.³ Similar in form are the signs for *a* and *ā* used in Malatya and Izgin inscriptions.⁴ Unique is the occurrence in Kara Dağ inscriptions of the sign  interchanging with the usual sign for *pu*.⁵ This list could be enlarged by some doubtful occurrences of syllabic signs on seals and in certain older inscriptions which are as yet little understood.

"REBUS" SIGNS

In contrast to the Hittite hieroglyphic syllabary, which contains only signs for vowels and for syllables consisting of consonant plus vowel, there are a few phonetic signs which have been developed on the so-called "rebus" principle. Of these , *tra(ra)*, expressing originally the numeral *tra*, "three," plus the tang *ra* as phonetic complement,⁶ is the most commonly used. The rare sign , perhaps *ara(ra)*,⁷ used in the Carchemish inscriptions is another example.

A difficult problem is presented by the bird sign in the name of the goddess Kupapas.⁸ This sign, which I formerly interpreted as "swallow" (HH II 8, 21, 25), is taken as "pigeon" by Bossert (ŠuK p. 34) and Meriggi (MVAG XXXIX 1, p. 134). If the latter should prove to be correct, then the value *papa* suggested for this sign by Dr. Ernst Grumach⁹ could be taken into consideration. Dr. Grumach deduced

¹ Bossert in AOF VIII 303 and IX 110; Meriggi in MVAG XXXIX 1, pp. 3 f.; Hrozný, IHH p. 294, n. 15.

² RHA IV 92, No. 314, also pp. 96 and 106.

³ Meriggi in RHA IV 89, Nos. 250 f. and n. 2; Hrozný, IHH p. 389, n. 3. The *ā* sign is of course read as *ā* by both scholars.

⁴ Same refs. as in n. 3.

⁶ See pp. 12f. and HH II 33.

⁵ Cf. Hrozný, IHH p. 440, n. 1.

⁷ HH II 13, n. 1.

⁸ What is perhaps a cursive form of this bird sign is employed in the word *xx-x-se-ha* (II M LII 2) and in other more doubtful cases (cf. p. 36, n. 3). It is shaped like the bird sign used in the name of Kupapas on a seal (M XLIII 8).

⁹ In a letter dated January 6, 1936.

this value from the occurrence of a rare Greek word for "pigeon," $\phi\acute{a}\psi$, which may be derived from a pre-Greek language and whose root $\phi\alpha\beta$ - fits well the desired value *papa*.

RÉSUMÉ

Unlike HH II, this volume presents a systematic evaluation of the phonetic signs as a whole. Whereas in the former study only signs with known readings were discussed, in the present one all the signs of the normal syllabary have been analyzed and classified. In order to bring them all into a logical picture the problem had to be approached from two sides. First, an attempt had to be made to correlate syllables for which no signs had heretofore been found with signs for which no satisfactory readings had yet been offered. I thus arrive below at the values *ke* and *ki* in this study, just as I determined the values *ne* and *ni*, *tx* and *tx̄* (now read *te* and *ti*), and some others in the former study. Secondly, the groups of syllables to which more than four signs with the same or similar consonants had been assigned had to be broken up in conformity with the four-vowel system of the Hittite syllabary.¹ This has resulted above in the discovery of signs containing the consonants *s* and *z*, related to *s* and *t* respectively.

The present, still provisional, number of sixty signs in the Hittite hieroglyphic syllabary includes the fifty-seven syllabic signs given in HH II with one omission and four additions. The signs , , and the pair  and , absent from the table forming the frontispiece of HH II,² are added in HH III, while on the other hand the sign , given in HH II, has been dropped.³ Of these sixty signs, readings, with or without question mark, have been proposed for fifty-five, while for

¹ Renewed study has further strengthened my belief in the four-vowel system. I find completely unconvincing Meriggi's attempt to prove the existence of signs containing the vowel *o* (RHA IV 108 f.).

² The first of these four was discussed, however, already in HH II 32.

³ This sign was credited with syllabic character on the basis of its alleged occurrence in the first personal name of a Babylon inscription (M II 1, cited in HH I 45); but the form of the sign is not clear there. On the other hand, it is not certain that the well preserved signs in A 2:3 and in the parallel passage A 11 a 3 are used syllabically.

the remaining five signs only possibilities at most have been suggested.

Nine perhaps syllabic signs in addition to the sixty have also been discussed, but their very rarity and the uncertainties connected with them stand in the way of including them in the normal syllabary, which is based predominantly on the Carchemish inscriptions and the Assur lead strips. Not all the syllabic signs used at Carchemish occur at Assur, but all the syllabic signs in the Assur lead strips recur in the Carchemish inscriptions.

In going over the Hittite hieroglyphic syllabary we see that no signs have yet been found with the values *ü*, *pe*, *re*, *še*, and *wu* or representing combinations of *ɔ* or *ɔ̄* with other than an *a* vowel. Some of these undiscovered values may not even have corresponding signs in the syllabary; *ü* (p. 4) and *wu* (p. 31) are cases in point. Perhaps, also, some signs containing the vowel *i*, such as *pi* and *ri*, were used for syllables containing the vowel *e* as well. Other syllables may still be discovered among the signs with doubtful readings discussed on pages 31 ff.

The writing shows two developments which fall outside the normal Hittite hieroglyphic syllabary: local and "rebus" signs. We have seen above (pp. 36 f.) that the Karapınar, Suvasa, Kayseri, and Kara Dağ inscriptions and certain others from elsewhere employ signs which are of strictly local or regional importance and are unknown outside their respective localities. The development of new signs through the "rebus" principle must have been widespread,¹ although only a few signs in this class have as yet been discovered (p. 37). Some of the five unread signs attributed to the normal syllabary (pp. 31–35) or of the nine rare signs mentioned (pp. 35 f.) may belong to this class.

Many more signs are read phonetically by other scholars, but they have been omitted from my discussion of the syllabary because their proposed readings do not fit the system of Hittite hieroglyphic writing as I understand it. Among these are e.g. ||[?], read as *ar* by Forrer,²

¹ This process is well known in many other systems of writing. Cf. e.g. the Akkadian values *pi₄*, *qat*, *ri₃*, *ṣir*, *ṭa₄*, etc. developed outside the Sumerian syllabary.

² HB pp. 39 f. Or does he not imply rather that this sign is *arha*, followed by attached phonetic complement *ha*? Cf. his ref. to it alone as ideogram for "Fürst, Herrscher."

Meriggi,¹ and Hrozný,² , read as *lu* by Forrer³ and as *ta*₆? by Hrozný;⁴ , read as *te* or *teš* by Bossert⁵ and as *dí* (or *dzi*, *tsi*) by Meriggi;⁶ , read as *tu* by Meriggi⁷ and Hrozný;⁸ , read as *gar* by Forrer,⁹ as *kar* by Bossert,¹⁰ Meriggi,¹¹ and Hrozný;¹² and several other less important signs.

It is evidence of the progress being made in decipherment that the number of signs concerning whose reading there is a divergence of opinion is rapidly diminishing from year to year.

In reviewing the main principles of Hittite hieroglyphic writing there is nothing to add here beyond what has already been stated in my former studies. The normal syllabary consists of some sixty syllables, which contain, as in Cypriote, only a vowel or a consonant plus a vowel. Contrary to Meriggi's and Hrozný's statements, there is no evidence for the existence of signs containing a vowel plus a consonant or a consonant plus a vowel plus a consonant.¹³ Even less admissible is the opinion likewise held by both of these scholars that alphabetic signs may occur side by side with the syllabic ones.¹⁴ From the restricted number of signs in the Hittite syllabary it necessarily follows that there is no room for either homophony or polyphony of signs. Nothing new can be added to the previously established principle that in the writing no distinction is made between voiced and voiceless consonants (HH II 8 f.). In favor of the principle that double consonants are never expressed in Hittite hieroglyphic writing (HH II 6-8) the additional examples Kukkunnis and perhaps Ninkarrak (p. 9) should be mentioned.

¹ WZKM XLI 14 f.; RHA IV 95, No. 403.

² IHH pp. 125, n. 1, and 269, n. 4. ⁴ IHH p. 200, n. 6.

³ HB p. 26. ⁵ ŠuK p. 39.

⁶ RHA IV 86, No. 185, and 91, n. 1, also 104 f. ⁸ IHH pp. 319 and 433.

⁷ MVAG XXXIX 1, p. 31. ⁹ HB p. 23.

¹⁰ ŠuK pp. 24 and 50. Bossert reads it as *karka* also.

¹¹ MVAG XXXIX 1, p. 3 etc.

¹² IHH pp. 99 and 109. Hrozný reads it as *ka'* also.

¹³ Cf. pp. 35 (*ap*) and 39 f. (*ar* and *kar*). See further Meriggi in MVAG XXXIX 1, pp. 2 f., 97 (**s-tar-da* and **š-tar-da*), and 110 (words beginning with **s* and **š*).

¹⁴ Meriggi in MVAG XXXIX 1, p. 3, and Hrozný, IHH p. 99.

THE GRAMMAR

NOUN: DECLENSION

SINGULAR		PLURAL	
Masc.-Fem.	Neuter	Masc.-Fem.	Neuter
Nom.	-s	-i, -ia	-ā ¹
Gen.	-s		-śa, -sa
Dat.-Loc.	—, -a, -ā		-ī
Acc.	-n	-ī, -ē	-ā, -a, -e, -i
Abl.-Instr.	-ta		-ta

The five cases of the hieroglyphic Hittite nominal declension were correctly established by Hrozný many years ago. Comparison of his paradigms in IHH pp. 77–83 with the table given above will reveal immediately that I have adopted without change Hrozný's nomenclature for the cases and his interpretation of their syntactical functions. Meriggi follows in general the same system² but refuses to admit the existence of the abl.-instr. case, which he combines with the dat.-loc.

In contrast to this close agreement on the use of the cases, unanimity on the forms of the individual case endings has not yet been attained.³ In the following I shall first discuss the differences of opinion on problems which may not require a full documentation of sources, such as the dat.-loc. sing. and pl. and the nom. and acc. pl.

¹ Other neuter pl. nom. endings remain to be discovered.

² RHA II 44 f.—That in the following grammatical investigations references to Hrozný and Meriggi are so abundant, as against an almost total lack of references to other decipherers of the Hittite hieroglyphs, is due simply to the preponderance of articles on grammatical subjects written by these two scholars within the last few years.

³ There are of course considerable differences of opinion concerning the treatment of the nominal stem between Hrozný and Meriggi on the one hand and myself on the other. These scholars read as *na* two signs which I differentiate as *ni* and *ne*, as *ta* two signs which I differentiate as *ti* and *te*, and as *ba* and/or *pa* two signs which I read as *pa* and *pi*. Hence many stems ending in *i* or *e* are taken by Hrozný and Meriggi as ending in *a*. Fortunately these differences in the interpretation of the vowel stems have no influence upon the determination of the case endings, which are unaffected by the final vowel of the stem.—On stems ending in a consonant see below, pp. 42–44.

Then I shall present as fully as possible the difficult question of the neuter.

The nom. and gen. sing. masc.-fem. end in *-s*, with all possible vowel variations before the ending. Hrozný's acceptance of nominatives and genitives without the *-s* ending (IHH pp. 80-82) does not seem to agree with the facts. The acc. sing. masc.-fem. ends in *-n* (cf. p. 45). The abl.-instr. sing. and pl. masc.-fem. end in *-ta*. All these endings are well established, and it is sufficient to glance at the nominal paradigms in my EHH to find many examples for each case.

There is greater disagreement on the form of the dat.-loc. sing. masc.-fem. Both Hrozný and Meriggi think that the dat.-loc. sing. can end in a vowel (or, if we consider the final vowel of the dat.-loc. as corresponding to the final vowel of the stem, it need have no ending at all) or in *-ta*. Hrozný cites hesitantly two examples of the dat.-loc. in *-ta* (IHH p. 83). Meriggi by grouping together the dat.-loc. and the abl.-instr. naturally obtains a considerable number of dat.-loc. examples ending in *-ta*.

If we disregard all the examples showing abl.-instr. use we find that in form the dat.-loc. corresponds normally to the stem, ending in a simple or a secondarily nasalized vowel. In the case of *god-ni* (HHM 18:5), *god-ne* (M XI 4), or *god-ni-a* (M V 4) we find that the dat.-loc. ends in *-i*, *-e*, or *-ia*, just as in many other cases we find that *i* stems interchange with *e* stems and sometimes even with the lengthened *ia* or *ea* stem. Cf. e.g. the nom. PRINCE *tra(ra)-wa-ni-s(a)* (A 11 a 1), PRINCE₂ *tra(ra)-wa-ne-s(a)* (M II 1), PRINCE₂ *ni-a-s(a)* (A 11 b 1), or PRINCE₂ *ne-a-s(a)* (A 12:1). Sometimes the final vowel can be secondarily nasalized, as may be seen from comparison of such cases as ⁴*Ku-papa(pa-pa)* (A 11 b 6) with ⁴*Ku-papa(pa)-ā-ha* (A 13 d 6) or ⁴*A-tra(ra)-lu-ha* (A 4 d) with ⁴*Ka+r(a)-bū-ha-ā* (A 13 d 6).

The idea that the dat.-loc. sing. can end not only in a vowel but also in *-ta* had its origin in observations made by Forrer (HB p. 45, where *ta* is read as *pe*) and Bossert (in AOF VIII 136) that in a letter from Assur (f Vo 4) a dat.-loc. form *ma-mu-ta* corresponds to the nom. *ma-mu-s(a)*. This word means something like "company" or "companion," but since we know little about it from comparable languages it has been impossible to do more than state the facts. To interpret this form we must seek other examples of the dat.-loc. allegedly ending

in *-ta* in words which can be analyzed by comparison with cuneiform Hittite.

A clear dat.-loc. example is found in the clause *wa-te ⁴Tar̄hu(bu)-ta-a ⁴x-ta-a ⁴Ku-papa(pa-pa)-ā-ha te-ni-me-a-ha*, “and then him (*wa(n)-te*) to Tar̄huns, to X, and to Kupapas I assigned” (A 6:6).¹ At first glance it would seem that forms ending in *-ta* interchange here with the form ending in *-ā*.² However, careful analysis of the names reveals that, although all three are dat.-loc., they belong to two different stem classes. The well known divine name Kupapas has a stem containing the vowel *a* and regularly appears in the dat.-loc. as Kupapa or with secondary nasalization as Kupapā. But we know from the form ⁴Tar̄-hu-un-za in cuneiform Hittite³ that the stem of the divine name Tar̄huns does not end in a vowel. In fact, from such derivative proper nouns as ⁴Tar̄hun-tiššaš⁴ or ⁴Tar̄hun-tašša⁵ we know that its stem is consonantal and ends in *-nt*. Parallel to the dat.-loc. sing. *humanti*, from nom. *humanz*, “all, whole,” in cuneiform Hittite, we have in hieroglyphic Hittite dat.-loc. Tar̄hu(n)ta, from nom. Tar̄hu(nt)s.⁶

The dat.-loc. *ma-mu-ta*, then, shows that the nom. *ma-mu-s(a)* also has a consonantal stem and really represents *mamu(n)s*. The Greek personal names *Μαμούτα*, *Μαμούττα*, etc.,⁷ evidently based on the same root, support this contention.

¹ The corresponding abl.-instr. is clearly represented in the phrase ⁴Tar̄hu-te-ta-a ⁴Ku-papa(pa-pa)-ta ⁴Kar(k)-hu-ha-ta-a ⁴x-za-ta-a-ha ¹ituus>a-ī-me-s(a), “beloved by Tar̄huns, Kupapas, Kar̄huhas, and X” (A 15 b** 1).

² As observed by Bossert *op. cit.* p. 140 (where *ta-a* is read as *t⁵+ha* and *ā* as *ha²*).

³ Forrer in *Zeitschrift der Deutschen Morgenländischen Gesellschaft* LXXVI (1922) 218, quoted in HH II 19.

⁴ Forrer *loc. cit.*

⁵ *Ibid.* p. 219.

⁶ The gen. is ⁴Tar̄hu(bu)-ta-a-s(i) (HHM 19 A 1), ⁴Tar̄hu(bu)-te-s(i) (I M XXI 5), or ⁴Tar̄hu-ti-s(a) (A 13 d 2); the abl.-instr. is ⁴Tar̄hu-te-ta-a (A 15 b** 1) or ⁴Tar̄hu-ti-ta-a (A 3:4). The acc. is not Tar̄hantan but Tarhun (by analogy with nom.), written ⁴Tar̄hu(bu)-n(a) (OLZ XXXVII 147:7, twice), ⁴Tar̄hu(bu)-i-n(a) (II M LII 2), ⁴Tar̄hu(bu)-i-n(a) (HHM 10:3), etc.

⁷ J. Sundwall, *Die einheimischen Namen der Lykier nebst einem Verzeichnisse kleinasiatischer Namenstämme* (*Klio*, 11. Beiheft [Leipzig, 1913]) p. 141, and Bossert *op. cit.* p. 143.

It seems clear that in the examples just cited there is no such thing as an ending *-ta* for the dat.-loc. but that the writings with *-ta* exhibit nothing more than a consonantal stem in *-nt* plus the vowel *a*.

The dat.-loc. pronominal forms *īta*, *īapas*, and *kita* from *īs*, "this," *īpas*, "that, he," and *kis*, "who," have to be explained as pronouns with the formative *t*, so frequent in cuneiform Hittite.¹

The gen. pl. masc.-fem. ending *-śa* or *-sa* was recognized some time ago by Hrozný,² but entirely unnecessarily Hrozný admits also an ending *-aja*(?) for this case.³

The dat.-loc. pl. masc.-fem. ends in *-ī* in the normal Hittite hieroglyphic inscriptions, that is, those of the period in which the special nasal signs *ā* and *ī* had already been developed. Other scholars, such as Hrozný and Meriggi, who do not recognize the existence of nasal signs in the writing, accept for the dat.-loc. pl. not only the ending *-ī*⁴ (read by them as *ja* and *ī* respectively) but also simple *-i*. That this is not true is evident from the Izgın inscription, where *-ī* of the dat.-loc. and *-i* of the acc. pl. masc.-fem. are distinguished with especial clearness: *arba(ha)-i arba(ha)-ī apa-n(e) e-ti a-i-a-ha* RIVER.LAND-*i-pa-wa-te* RIVER.LAND-*ī apa-n(i) e-ti a-i-a-ha*, ". . . frontiers⁵ (or 'provinces, territories'; acc. pl.) to frontiers (dat.-loc. pl.) I added,⁶ and then river lands to river lands I added" (IHH Pl. XCIX 4 C-5 B).⁷

The most difficult problem in the declension of hieroglyphic Hittite nouns pertains to the neuter. Since no work has been done in this field heretofore,⁸ it is necessary to start at the very beginning and analyze the individual occurrences of neuter forms as completely as possible. To make clear the distinction between these and the regular masc.-fem. forms typical examples of masc.-fem. acc., both sing. and pl., are given first. In order to provide a double check, only such examples are chosen as occur in company with the demonstrative *īs*,

¹ Sturtevant, *A Comparative Grammar of the Hittite Language*, § 260.

² See HH II 11 f. For examples see the paradigms in my EHH.

³ IHH pp. 77-82.

⁴ See paradigms in my EHH.

⁵ Translation follows Forrer, HB p. 40; Meriggi in WZKM XLI 20; and Hrozný, IHH p. 444.

⁶ Translation follows Hrozný *loc. cit.* ⁷ Similarly in IHH Pl. XCIX B-A.

⁸ Cf., however, the important, although generalized, remarks by Meriggi in RHA II 43 f.

“this.” Then are discussed all the neuter acc. forms known to me. The sing. and pl. examples similarly accompanied by the demonstrative take precedence in their respective groups. Forms assumed by neuter nouns in cases other than the acc. are noted under each noun concerned.

Typical examples of masc.-fem. nouns in the acc. sing. modified by a demonstrative are:

1. *ī-n(a) CHAIR.SEAT_{2c} a-sa-n(a) WALL.HAND + me-ḥa*, “this chair I built” (A 6:7 f.).
2. *ī-e-pa-wa CHAIR.SEAT_{2c} a-sa-n(a)-e . . . WALL.HAND + me-ḥa*, “and this chair . . . I built” (A 6:3 f.).
3. *ī-pa-wa SEAT_{2c}-sa-n(a) . . . WALL.HAND + me-ḥa*, “and this chair . . . I built” (M VI 2).
4. *ī-wa MONUMENT-lu-n(a) Sa-ru-wa-ni-s(i) a-i-a-za*, “and this column Sarwanis made” (II M LIII).

The acc. sing. of masc.-fem. nouns clearly ends in *-n*. As to the demonstrative, *n* appears in the first example but is assimilated in Nos. 2–4 to a following consonant (here *p* or *w*). The *e* after the nasal stem in No. 2 occurs often throughout the whole declension of this demonstrative. It is somehow connected with the nasalization.¹

Analogous examples in the acc. pl. are:

1. *ī-e-i GATE_{2c}-le-ni-śa-a-i HOUSE.INTERIOR ḥa+ra-se-ti-ne-i . . . WALL.HAND-me-ḥa*, “these gate-houses . . . I built” (A 11 c 6).
2. *ī-i-pa-wa HOUSE ḥa+ra-se-ti-ni-i . . . a-i-a-ḥa*, “and these houses . . . I made” (A 11 a 5).

These examples show that the acc. pl. of masc.-fem. nouns ends in *-i*.² That the nom. likewise ends in *-i* appears from the example *god-ni-a-i arba(ḥa) ḡa-za-tu-u*, “may the gods eat away,” cited above (p. 24). Other scholars, such as Hrozný and Meriggi, accept an ending *-ī* also (read by them as *ja* and *ī* respectively) for both. Although I myself have not been able to find any decisive examples in favor of the latter, there can be no objection to it, because by a secondary development the ending *-i* could easily have become nasalized.³

¹ But see also the suggestion on p. 4.

² Also rarely in *-ia*; see the paradigms in my EHH.

³ Cf. variant *ā* for *a* (pp. 3 f. and 42).

The acc. sing. neuter examples are:

1. *i a-s(e)-tra(ra)-te-ī ī-e-ħa TABLE-wa-śa?-ī . . . ki¹-s(a) . . . arħa(ħa) x-a*, “. . . who(ever) . . . removes this thone and this table” (HHM 7 DC 2; see also 7 D 1, 4 B, 4 D, 6 A 1). The word for “throne” occurs also in the dat.-loc. form THRONE *a-s(e)-tra(ra)-ta-a* (I M XXI 4; II M LII 5).
2. *ī-e MOUNTAIN_čħa+r(a)-ni-se-ī La-ka-wa-ni-s(e)-ħa-wa^{land} RIVER. LAND-za-s(e) ki-ī a-i-a-za*, “and this *ħarnises* which the Lakean river land made” (M IV A 2 f.; cf. M III B 2 f., M IV B 2, and CE V 1, twice). The abl.-instr. case MOUNTAIN_č-se-*l*[*a*] occurs in I M XIV 4:1; perhaps gen. MOUNTAIN_č-se in A 12:3; see also in fragmentary context *ki-ā MOUNTAIN_čħa+r(a)-ni-se-[nothing missing?]*, “which *ħarnises*” (HHM 19 A 2).
3. *ī wa-ni-ī²a-mu ki-ī-ħa-e*, “this monument I made” (HHM 20:2); *ī-pa-wa MONUMENT_čwa-ni-ī³ Pa-ħ(a)-la-ta-ā LEG-nú-ħa-e*, “and this monument to Ba^člat I offered” (HHM 47:2). See also acc. *ī-pa-wa-te MONUMENT_čwa-ne-ī* (M II 5 f.); *ī-pa-wa-te MONUMENT_čwa-ni-ī* (HHM 9 A 2); *ī-pa-wa MONUMENT* (HHM 18 C 5); *ī-wa MONUMENT-ni!-ī* (A 5 a 1); *ī-wa MONUMENT-ni-i* (A 18 f and h).² It is impossible to establish the case of MONUMENT-*ni-i* (A 4 c) or of *wa-ni-i* (CE XII 5) because of broken or difficult context. From an early period in which nasalization is not yet expressed in the writing come *i* MONUMENT (Forrer, HB p. 9, Abb. 11 and 12, from Boğazköy) and *i-ħa-wa* MONUMENT (IHH Pl. LXXVII 2, from Emirgazi); dat.-loc. *i-ta-a* MONUMENT also occurs (*ibid.*). The same word, with change from an *i* stem to an *a* stem, occurs as *wa-na-s(a)* in the nom. (A 18 i, also CE V superscription corrected according to HH II 11). *Wa-na* in HHM 49 A 1 is perhaps a dat.-loc. Important is *ī-wa wa-na* in HHM 58, frag. 3:2, should it prove to be a variant form of the acc. The case of HEAD.TONGUE *wa-na-ē* in HHM 52, frag. 1:1, cannot be ascertained.
4. *ī-pa-wa e+r(a)-ma-ī ki-s(a)-e ī+ra-a-ta-ta-a*, “and who(ever) removes(?) this *ermas*” (HHM 49 A 2). *Hapax legomenon.*

¹ On *ki* and *ke* see pp. 54 ff.

² Something must be wrong here, because the nasal in the demonstrative does not agree with the *i* of the noun.

5. *ī-pa-wa-te-e za-ma-ī ke!-s(a) arba!(ha)-e ī-ha!-a+ra*, “and then who(ever) destroys this *zamas*” (CE XII 5).¹ *Hapax legomenon*.

Besides the examples of nouns accompanied by the demonstrative *īs*, there are many other examples of nouns occurring alone or with other pronouns or adjectives ending in *-ī*:

6. In A 13 d 4 we find *g-wa-a-ī-ha-wa-tu pi-a*, “to him (-tu) also (-hawa-) nine give!” In ll. 6 f. we read *e-wa ^dKa+r(a)-hū-ha-ā ^dKu-papa(pa)-ā-ha g-wa-a-ī² pi-ā-tu*, “and to Karhūhas and to Kupapas nine may he (or ‘they’) give!” In this case *nuwaī* may be the acc. of a noun meaning “ennead,” or it may represent the indeclinable numeral “9.”

7. In Assur c Vu 14–17 we find *wa-mu-te x tu-wa-a-ī ki-ī u-śa-ta-se*, “and then the *tuwas* which thou shalt buy for me.”

8. *wa-mu-e ³a-ma-ī ti-ta-ā-ī LOG se-la-ha-ī pi-ā-te-e*, “and to me my paternal *selahas* he (or ‘they’) gave” (A 14 a 2 f.)³ is analogous to *wa-mu-e ku-ma-n(a) ^dTarhū-s(a) ³a-ma-ī ti-ta-ā-ī LOG se-la-ha-ī pi-ā-te*, “and when Tarhuns gave to me my paternal *selahas*” (A 2:1 f.). Dat.-loc. *LOG se-la-ha* is found perhaps in IHH Pl. CII 4, end.⁴

9. The word *usalis* occurs in the nom. in *x.x₂³a-s(a)-ha+r(a)-me-s(e)-pa-wa-ma-ī ī-e GOD-ne-ī LITUUS.HAND-ni VASE-sa-li-ī-s(a) BREAD₂ tu+r(a)-pi-s(a)*, “and *asharmes* for them,⁵ for these gods, also libation (and) bread” (A 11 b 6). The corresponding acc. occurs in *ī-e-ta BOWL ^dTarhū-la-a GOD-ne-ī LITUUS.HAND-ne VASE₂ u-sa-li-ī iā* [. . .], “for this Tarhuns of the (sacred) bowl (and) also for the (other) gods if libation [. . .]” (A 13 d 8 f.). In *ī-[ta]-pa-wa ^dA-tra(ra)-lu-ha GOD-ni-ī LITUUS.HAND-ni VASE-sa-li-ī BREAD tu+ra-pi?-n(a)*, “and

¹ On the verb see p. 12.

² Instead of *g* the text has *g*. If the emendation is correct, then instead of *g-wa-a-ī* the simple phonetic reading *nu-wa-a-ī* is also possible.—Similarly in A 1 a 2 (twice) the reading *g-ī-ha-wa-tu pi-ā-ha*, “to him also nine I gave,” is more plausible than the reading in the order *ī-nu-ha-wa-tu* of Hrozný, IHH p. 197, and of Meriggi in MVAG XXXIX 1, p. 123.

³ Similarly A 11 a 2; IHH Pl. CII 2 f.; RHA III Pl. 4:3 f.

⁴ Perhaps also *se-la-ha* in CE IX 4.

⁵ This is also the clearest proof that the enclitic *-ma-ī* means “for them” or “to them,” a fact as yet recognized by Forrer only (HB p. 53, n. 19). Comparison of the context in A 14 a 4 f. with A 2:2 f. shows likewise that *wa-ma-ī-e* in A 14 a 4 means “and for/to them.”

for this ²Atraluhas (and) also for the (other) gods libation (and) bread" (A 4 d), a *na* seems to follow **VASE**-*sa-li-ī* in the copy,¹ but I would be inclined rather to include this sign (to be read as *pi?*) in the next word, since I know of no clear interchange of forms ending in *-ī* with those ending in *-n*.² The form **VASE**₂*u-sa-li-ā-pa-wa-tu-u*, occurring in a broken context in M XXIII A 2 f., is probably not a variant of *usalī* but differs in number (cf. p. 53).

10. *wa-mu wa+ra-la-ī x sa-na-wa-s(a) a-i-a-za* ⁴*Tata-s(a) KING-ta-a-s(a)*, "and for me the good king Tatas made a *waralas*" (HHM 58, frag. 1 A 1). *Hapax legomenon.*

11. *wa-tu-u wa-a-ki-ī sa-ħe*, "and I asked him for a bite (of food)" (M I 3). On this translation see pp. 64 f.

12. In the clauses *wa-tu-e* **BREAD** *tu+r(a)-pi-n(a)* **DRINK** *si+r(a)-la!-te-ī-ħa* **FOOT** *pa-ia!-ā-tu*, "and to him bread and wine may they bring"³ (A 1 a 5), and *wa-tu-te-e* **BREAD** *tu+r(a)-pi-n(a)* **DRINK** *si+r(a)-la-te-ī-ħa ia-s(a) arħa(ħa) za-ta-a*, "and then who(ever) takes away from him bread and wine" (A 11 a 6 f.), it is impossible to determine whether **DRINK** *si+r(a)-la-te-ī-ħa* expresses original **DRINK** *si+r(a)-la-te-ī-n(a)-ħa*, in which acc. *n* is assimilated as usual to a following consonant, or is an acc. in *-ī*. An identical form, written with a different ideogram, is found in **GRAPES** *si+r(a)-la!-te-ī!-ħa* (M VI 4 emended according to collation and photograph in Hrozný, IHH p. 307 and Pl. XV) and **GRAPES**₂*si+r(a)-la-te-ī-ħa-wa* (M VI 5).⁴

13. The most frequent and most important noun with the acc. sing. ending *-ī* is ²*a-ze-ma-ī*. Its use is best attested in such clauses as *ne-pa-wa-te* ²*a-ma-ī* ²*a-ze-ma-ī-e ki-a-s(i) arħa(ħa) x₂-la*, "or then who(ever) removes my ²*azemas*" (A 6:9), and ²*a-ma-ī-pa-wa-te* ²*a-ze-ma-ī ki-a-s(a) arħa(ħa) x-a*, "and then who(ever) removes my ²*azemas*" (A 2:4). Meriggi first translated the second example as "meinem Priester aber

¹ As read originally by Meriggi in MVAG XXXIX 1, p. 47, and Gelb, HH II 11.

² See above, p. 3, n. 3.—The two forms *x₂-tu-wa+r(a)-se-ī* and *x₂-tu-wa+r(a)-ħa-n(a)* cited in HH II 11 have to be kept apart, the first one being probably dat.-loc. pl. while the second one is acc. sing.

³ The hieroglyphic Hittite verb *pata-*, "bring," may correspond to cuneiform Hittite *peda-*, "carry, bring," etc. (Sturtevant, *A Hittite Glossary*, 2d ed., p. 122).

⁴ Meriggi's reading in MVAG XXXIX 1, p. 137, of *li-la-[ta]-ī* in II M XX 4 is too doubtful.

wer (es?) ent-zieht,”¹ then changed the translation of the first two words from “meinem Priester” to “meiner Verwandschaft” or “meiner Familie,”² in both cases taking ²a-ma-*ī* ²a-ze-ma-*ī* to be dat.-loc. sing. Hrozný translates the same phrase as “puis qui broie(?) mon image(?)”,³ interpreting those words as acc. sing.

Meriggi’s interpretation of ²a-ma-*ī* ²a-ze-ma-*ī* as dat.-loc. is based solely on his translation of ²a-ze-ma-*ī*, for which he has offered no good evidence. Hrozný’s translation “image” (or perhaps “inscription, stela,” or the like) fits much better in all instances. Furthermore, ²a-ze-ma-*ī* cannot be dat.-loc., because the possessive pronominal adjective ²a-ma-*ī* which modifies it is not dat.-loc. The correct dat.-loc. sing. forms of the latter are ²a-me-a, ²a-me, ²a-ma, e-me-a, e-me, me-a, and me, but never ²a-ma-*ī*.⁴ Finally, the verb *arha(ha)* x_{2c}-la or x-a, no matter whether it is translated as “removes” or as “smashes,” is always construed with the acc., as is best proved by *ī-pa-wa-z(a)* *arha(ha)* x-a, “and this (=antecedent MONUMENT_{2c}wa-ne-*ī*) he removes” (M II 6).

The form *a-ze-ma-ī* is therefore clearly in the acc. Of the four possible interpretations, the acc. sing. masc.-fem. can be eliminated immediately because the latter ends in -n.⁵ In turn, the acc. pl. masc.-fem. is unlikely, because it ends regularly in -i. Even if Hrozný and Meriggi should be right that some acc. pl. forms end in -ī (see p. 45), the almost total absence of the spelling ²a-ze-ma-*ī*⁶ would speak against such an interpretation of this word. Especially in the Carchemish inscriptions, in which the acc. ending of masc.-fem. plurals is so regularly

¹ WZKM XLI 28.

² MVAG XXXIX 1, pp. 8 f.

³ IHH p. 206.

⁴ See paradigms in my EHH.

⁵ Except where *n* is assimilated to a following consonant (cf. p. 45).

⁶ Meriggi in MVAG XXXIX 1, pp. 111 f., enumerates some fifteen examples of ²a-ze-ma-*ī*, also one example of ²a-ze-ma-ē (A 18 e 2). In addition there is one example of *a-ze-ma-e* in an old inscription from Köylütolu Yayla (HHM 41:2), written before nasalization was yet expressed in writing, and one example of ²a-ze-ma-*ī* in an inscription at Kötükale (HHM 40:5). The latter may possibly be a defective writing, for the Kötükale inscription belongs to the Malatya group of inscriptions, which exhibit notoriously bad grammar. Suffice it to refer here to their frequent writing of nominatives without the normal -s ending.

-i, the interpretation of ²*a-ze-ma-ī* (which occurs some eleven times at Carchemish) as such a form would seem quite out of place.

If ²*a-ze-ma-ī* cannot be acc. sing. or pl. of a masc.-fem. noun, then nothing remains but to take it as neuter. The problem now remains to determine whether it is sing. or pl. This problem can be solved if we analyze some forms, still to be discussed, of the same word. In a Boybeyipinarı inscription we read *ni-pa-wa-te* ²*a-ma-ī* *ti-ta-ā-ī* ^{n²}*A-ī-me-s(a)* ²*a-ze-ma-ī* *arha(ha)* *x-a* *ni-pa-wa-z(a)*¹ ² *x-ha-me-śa?-s(a)* ^{n²}*Pa-na-mu-wa-ta-s(a)-ha* *Hattusi+li-s(a)-ha* ²*a-ze-ma-ni* *x ze-s(a)-tra(ra)-ta* LITUUS.HAND-*ni arha(ha)* *za-¹a¹*, “or then removes the ²*a-ze-ma-ī* of my father ²Aīmes³ or takes away the ²*a-ze-ma-ni* of xħames and of Panamuwas and of Hattusilis from the zestrás” (HHM 7 BC 3). In comparing ²*a-ze-ma-ī*, used where one person is concerned,⁴ with ²*a-ze-ma-ni*, used where three men are concerned, we cannot escape the conclusion that the first form expresses the sing., while the second denotes the corresponding pl. In an inscription from Tell Taċyināt appears ²*a-ze-ma-ni-a* (HHM 55:2), which seems to be a variant form of ²*a-ze-ma-ni*.

The acc. pl. neuter examples are:

1. *ī-ā* ^d*Tarħunta-s(a)* GOD.HOUSE-za BUILDING.FIST-*ru-ha*, “these temples of Tarħuns I strengthened(?)” (A 2:4); *ki-s(a)* *ī-e-ā* GOD.HOUSE-*ha-za* *e-ti* BUILDING-*te-pa-a*, “who(ever) s these temples” (A 2:5). The word for “temple” occurs also as GOD.HOUSE-*s(a)* in gen. sing. (A 11 a 4); GOD.HOUSE-*za* in dat.-loc. sing. (A 7 a 2); GOD.HOUSE-*za* in acc. pl. (A 11 a 4; A 15 b** 2); same in an undefinable case (I M XII 3:3). Another spelling, in the difficult form VOLUTE. HOUSE-*za*, (see pp. 33 f.) is found in the old inscription from Köylütolu Yayla (HHM 41:3) and perhaps in that from Karga (HHM 37).

2. *ī-ā-pa-wa-te* HOUSE-*na-e* *ki-s(a)* [ar]ħa(ha) [ħa?+ra?]-ā (cf. p. 12), “and then who(ever) destroys(?) these houses” (A 4 a 2). Other forms: gen. sing., HOUSE-*na-s(a)* (II M XXXIII A 2); dat.-loc. sing., HOUSE-*ni* (M IX 5), HOUSE-*ne* (A 16 e 1; A 17 c 2:3), HOUSE-*ni-a*

¹ For pl. as well as sing. (cf. p. 49) use of *-az* see p. 53, also my EHH.

² Here *ni-pa-wa-z(a)* is followed by some words difficult to understand, read as *me-a-s₁* *x-s* and translated “de mon maître” by Hrozný, IHH p. 337.

³ Literally, “removes my paternal ²*a-ze-ma-ī* of ²Aīmes.”

⁴ Cf. also HHM 6 B 2 and 7 B 2.

(Assur g Ru 18); acc. pl., HOUSE-*na-e* (HJM 38 C 2) and HOUSE-*na* (*ibid.* B 6). Acc. sing. perhaps occurs in *ti-ta-ā-ī* HOUSE-*ni-ī*, “the paternal house” (A 2:6), and strangely in *e-pa-sa-ḥa* HOUSE-*na-i* *arḥa(ḥa)* *ḥa+ra-tu*, “and his house . . . may (the gods) destroy” (OLZ XXXVII 147:8; latter example is too early for use of *ī*). A difficult form is x.HOUSE-*sa-ḥa* (M VII 2). Evidently the same word occurs as *pir*, pl. *parna*, in cuneiform Hittite.¹ Cf. also *Pa+r(a)-na-s(a)-pa-wa-te-e^{city}2* (HJM 10:2) and questionable *pa+r(a)-na-i-ḥa* (HJM 60:2).

3. *ī-ā-ḥa-wa* GATE_{2c}-*le-na* LEGS-*te*, “and these gates . . . he passed through” (A 11 a 4); *ī-ā* GATE_{2c}-*na* MONUMENT-*śi+ra-ḥa*, “these gates I walled up(?)” (A 11 a 5). Other forms: gen. (or nom.) sing., GATE-*le-ne-s(a)-e* (M II 5); dat.-loc. pl., *ī-ta-ā-ī* GATE-*na-ī*, “in these gates” (A 11 a 5). An adjectival formation is found in GATE_{2c}-*le-ni-śa-a-i* HOUSE.INTERIOR *ḥa+ra-se-ti-ne-i* (A 11 c 6), which proves that the root of the word ends in -*lena/e/i*. According to Bossert in AOF IX 127, this is the word borrowed as *bilani* by the Assyrians.

4. *ī-ā-wa* MONUMENT_{2c}*ka-ta-na* !*Ze-e-s(a)* ^{lituus}*BOWL-n(a)* ⁴*Tarḥu-ta-a a-i-a-za*, “and these . . . s *Ze*²es made (into?) a bowl for Tarḥuns” (M I 3); *ī-ā-wa-a* MONUMENT_{2c}*ka-ta-na* *Runta(ta)-ā-s(a)* *Halpa(pa)-ni* ⁴*Tarḥu(hu)-ta . . . -te*, “and these . . . s Runtās . . . ed for the Aleppine Tarḥuns” (Assur Pl. 8). This word does not occur elsewhere. To read *katan*, upon the assumption that the word is acc. sing. of a masc.-fem. noun *katas*, is impossible, because then instead of *ī-ā* we should expect *ī-n(a)*. Hence I read *katana* and take it as neuter pl.

5. *ī-ā* SPEAK_{2c}*mi+ra-te ki-s(a)* *iā* x+*me-ta-ta*, “whoever changes(?) these words” (M XI 5). Acc. is written *ī-ā* *mi+ra-te* in HJM 9 C 2 and in AOF VII (1931/32) 185:1. In *ī-ta-n(a)* *ī-n(a)* SPEAK_{2c}*ma-e+ra-ta-n(a)* LITUUS.HAND-*ni a-i-ā-e*, “this one thing (word) do!” (Assur b Vo 14-20), the word *maratan*, because of the demonstrative *īn* with which it is construed, should be taken as acc. sing. of a masc.-fem. noun *maratas*. Still different is SPEAK *mi+ra-li-a* in HJM 32:2.

¹ Sturtevant, *A Hittite Glossary*, 2d ed., pp. 118 and 124, and *Supplement* pp. 34 and 36.

² Cf. ⁴*Bar-na-aš-š[a]* in a cuneiform text from Bogazköy, KUB XVI 10:15.

6. *ī-ā-pa-wa-te ki-ī-ma-ā ki-s(a) arḥa(ha) x_{cc}-ā*, “and then who-(ever) removes these *kīmas*” (CE V 3). *Hapax legomenon*.

7. *ī-ā-wa* BUILDING *ḥi?-sa-li-ā* (the rest difficult) (M XVI A 1 and II M XLVII). This word does not occur elsewhere.

Besides the foregoing examples which include the demonstrative *ī-ā*, we may cite also two examples of an acc. in *-ā* without it:

8. *e-wa x-me-ā* GOD.HOUSE-*s(a)* *ku-ma-n(a)* WALL.HAND+*me-ha*, “and when I built the . . . s of the temple” (A 11 a 4). Same word perhaps also in CE VII 2 and 6.

9. *e-wa pa-ā-e* LAND-*ni-ā* WALL_{cc}*te-na-ti-ha*, “and those lands I . . . ed” (A 11 b 4). Same word in dat.-loc. sing.: LAND-*ne-ā* (A 11 a 2 and 3) and LAND-*ni-a* (A 2:3); in abl.-instr.: LAND-*ni-ā-ta* (A 11 b 5); in gen. pl.: LAND-*ni-ā-śa* (A 3:1 and 3) and LAND-*ne-ā-śa* (A 16 a 6); etc.

The Assur letters contain quite a number of forms with endings which might well be classified in this group. The most important of these are found in the following two passages: *e-wa ḫa-pi ku-ru-pi ki-ā x.x_{cc}wa-e+ra-ma HARE-pa-se-la-ā arḥa(ha)-e HAND_{cc}sa-ha-na wa-e+ra HAND_{cc}-ḥa+ra-ī wa-ma-e+ra arḥa(ha)-a ROAD-wa-ni*, “and those kurupis which for the . . . ed ruler I request(?), prepare(?) them and send them to me!” (Assur b Vo 20–Vu 14); *ḥa-pi-ḥa-wa-e HARE_{cc}te-pa-se-la-ā x.x_{cc}wa-x+ra-ma-e ku-ru-pi ḫa-me-a e-te-ta arḥa(ha)-e HAND_{cc}sa-ha-na ḫa-pa-a-ā-pa-wa HOUSE-ni-a e-te-ta arḥa(ha)-e HAND_{cc}sa-ha-na! wa-e+ra-a HAND_{cc}-ḥa+ra-ī wa-ma-e+ra arḥa(ha)-e ROAD-wa-ni*, “also those kurupis of mine for the . . . ed ruler I request(?), and in addition those for the house I request(?). Prepare(?) them and send them to me!” (Assur g Ru 5–26).

Among other words in the Assur letters we may cite *u-ī-a+ra* (a Vo 17) or *u-ī+ra-a* (a Ro 7); PAWS?_{cc}-*wa+ra* (b Ro 3); *sa-na-wa* (e Ro 23); *x_{cc}wa-pa-wa* (f Vo 31; again, but without _{cc}, F. Thureau-Dangin and M. Dunand, *Til-Barsib*, Album [Paris, 1936] Pl. VIII 5:2); *tu-wa-a+ra* (f Vu 14); *pa+ra-la-a+ra-ḥa-wa-tu-u x_{cc}ḥa-tu-na-a+ra* (f Ro 14–17; cf. *x_{cc}ḥa-tu-ni-n(a)-wa-mu*, a Vu 15 f.); FOOT_{cc}-*pa+ra-a+ra* (f Ru 10); *[x¹] ḫa-mu+ra-le+ra-e* (g Ro 16 f.); HORN_{cc}-*śu+r(a)-ni* (g Ro 27).

In comparing the two groups of neuter nouns modified by the demonstrative *īs*, one thing stands out clearly: the demonstrative occurs in the form *ī* with nouns ending in *-ī*, in the form *ī-ā* with nouns ending in *-ā*, *-a*, *-e*, or *-i*. The nouns of these two groups differ not only in form but, in at least one clear instance, in number also: ³*a-ze-ma-ī* is sing., and ³*a-ze-ma-ni-(a)* is pl. In addition, the occurrences of MOUNTAIN_{2c}*ha+r(a)-ni-se-ī* besides MOUNTAIN_{2c}*ha+r(a)-ni-se-[nothing missing?]* (modified by *ki-ā*, p. 46), of VASE_{2c}*u-sa-li-ī* besides VASE_{2c}*u-sa-li-ā* (pp. 47 f.), and of HOUSE_{2c}*ni-ī* besides HOUSE_{2c}*na-(e)* (pp. 50 f.) favor differentiating these forms as sing. and pl. respectively.¹

As can be seen from the examples *wa-na-s(a)* (p. 46) and VASE_{2c}*sa-li-ī-s(a)* (p. 47), the nom. sing. neuter, contrary to expectations, ends in *-s*, evidently taken over from masc.-fem.

It might be expected that the nom. pl. of a neuter noun would be identical with the acc. pl. Unfortunately, the Hittite hieroglyphic inscriptions offer hardly any examples to prove this point. In A 11 a 5 we read *e-wa ī-ā GATE_{2c}-na MONUMENT-śi+ra-ḥa wa-z(a)-e EYE-le x-pi-śa-ā s(a)-ti-e*, which could be translated “and these gates I walled up(?), and they² were to the eye(?) beautiful(?)”. I read the individual signs here in almost the same order as do Hrozný and Meriggi; the great differences between their interpretations³ and my own are due chiefly to differences in word division.⁴ As read and divided above, the syntax of the two clauses appears simple. My question marks do not refer to the general meanings of the words to which they are attached but are intended merely to warn that the exact translations are not sure.

¹ Since Assur *a* is full of requests for many and various things (observe the several numerals used in the letter), it seems very reasonable to translate its final clause *ī-ā ROAD-wa-ni* as “send these (things)!”. Meriggi translates “sende diese(s)!” (AOF X 133); Hrozný: “envoie ici!” (AOr X 42). However, Meriggi also translates *ī-ā* as “diese (Sachen)” with question mark (MVAG XXXIX 1, p. 124).

² On this pl. use of *-az* see my EHH.

³ Hrozný, IHH pp. 161 f.: “Lorsque j’ai bâti les murs de cette porte, on(?) lui a fait un devant(?)”. Meriggi in MVAG XXXIX 1, p. 33: “und (an?) diesem Torturm die Bildwerke auch da(nn) . . . wurden aufgestellt.”

⁴ Thus Meriggi reads the fourth and fifth words as one, while Hrozný takes the sixth, seventh, and eighth words as one word.

PRONOUN: RELATIVE, INDEFINITE, ETC.

↑	<i>ki</i>
↑	<i>ke</i>
↑	<i>ia</i>
↑	<i>iā</i>

I doubt whether in all the years that I have devoted to the decipherment of the Hittite hieroglyphs I ever confronted a more difficult problem than that of the reading and interpretation of the relative pronoun. One thing is certain, that I have spent more time in trying to solve this problem than on any other phase of the decipherment. In view of the difficulties involved and in view of the fact that I do not feel that even now the problem has been solved completely, I find it hard to understand the prevalent complacency of other scholars with respect to the readings of the signs involved. The following long exposition is an outgrowth of my feeling that such complacency is ill-founded. The readings of the signs used in relative pronouns are not so well established as has sometimes been assumed. The very assumption that three or four signs with the value *ia* occur in a writing system which does not recognize homophony makes the whole current reconstruction subject to suspicion.

My exposition is divided into three parts. The first part contains a historical account of the various scholars' readings of the signs used in relative pronouns. At the same time it endeavors to show how groundless and in many respects how fallacious have been the proofs offered for a basic value *ia* for all four signs here to be discussed. In the second part is brought together all the available evidence in favor of the readings proposed by myself. In the third part are discussed the relative pronominal roots and derivatives.

In order to save printing costs the four signs at the head of this section are often mentioned by number as first, second, third, and fourth sign respectively. In some of the transliterations they are represented by the letters *x*, *y*, *z*, and *z̄* respectively.

PREVIOUS READINGS OF SIGNS

To Forrer belongs the credit for having discovered occurrences of the relative pronoun in the Hittite hieroglyphic inscriptions.¹ His reading of the first sign as *ki* was based on an alleged interchange of this sign with *ku*, which he promised to discuss² but did not. Forrer also thought that, since the sign pictures a column, he could derive the value *ki* by acrophony from a presumed Hittite word which passed later to the Greeks in the form *κιών*.³ This derivation requires more convincing evidence than that offered by Forrer. The second sign was read by Forrer as a combination, *ki+i*.⁴ He offered no reading for the third sign, but since he considered the fourth sign to be a compound of the first sign plus *ā* (read on his p. 42 as *ki+ea*) it is reasonable to assume that he would have taken the third sign to be a compound of the first sign plus *a* and would have read it as *ki+e*.

Hrozný began his discussion of the relative pronoun by stating that the first sign is so similar in form to the signs for *i* and *ī* (read by him as *i* and *ja* respectively) that in his opinion it was legitimate to assign to it a similar phonetic value.⁵ He therefore transliterated the first sign as *já* and thereby obtained a relative pronoun *jas* phonetically like a demonstrative pronoun which he had compared with the Indo-European relative pronoun **i̯os*.⁶ His case seemed strengthened by such inferred relationships. The second sign also he transliterated as *já* because of a supposed occurrence in A 3:4⁷ which he took to be a variant for the first sign, the one normally used in the relative pronoun. Hrozný also expressed the opinion that the third sign was a compound of the second (or of *i*) with *a* and that the fourth sign was correspondingly a compound of the second (or of *i*) with his *ā*.⁸ Hence in his table of signs he placed the first three signs together, transliterating them all as *já*, and differentiated only the fourth sign, calling it *jā*.⁹ Now Hrozný had offered no real proofs for reading the

¹ HB pp. 41 f. and 50–53. ² *Ibid.* p. 41.

³ *Loc. cit.*—On his p. 50, n. 17, he read this sign as *ku* also, without giving any proofs.

⁴ *Ibid.* p. 50, n. 9.

⁵ IHH p. 37.

⁶ *Ibid.* pp. 36 f.

⁷ That the sign there is actually our third seems probable from the photograph on A 3.

⁸ IHH p. 37. Cf. Cowley's earlier interpretation, referred to below.

⁹ *Ibid.* p. 105, Nos. 22 and 23.

signs in question as *ia*, since the mere fact that one sign resembles another cannot be taken as favoring similar readings.

Weak as his arguments were, they seem to have proved sufficiently persuasive to bring about the unfortunately all too common acceptance of the value *ia* for all four signs. Only once did Hrozný later try to offer an additional argument in favor of *ia*,¹ and then his evidence was based on an unfortunate misreading; for his comparison of *i+ra-ta-a-te* (read by him as *j[a]^(r)-tā-a-[t]a*) and *i+ra-ia-ta-a* (read by him as *ja^(r)-tā-tā-a*) with an alleged  (read by him as *ja^(r)-a-tā-tā-a*) is inadmissible because in the latter case too the text (HHM 49 A 2) has clearly *i+ra-a-ta-ta-a*.

It is exceedingly difficult to follow Meriggi's discussions of the four signs not only because his proofs are scattered through many articles but also because of the changes in readings which he felt obliged to adopt from time to time.

Originally Meriggi failed to include the first two signs in his lists of phonetic signs, evidently because he had not yet recognized their syllabic character.² The third sign was at first read by him as *e* (from *a+i*) and the fourth sign as *ē* (from *a+i*),³ partially following Cowley, who had read these two signs as ligatures, *i+a* and *i+a* or *i+a* respectively.⁴ Though Meriggi himself offered no evidence for these readings, he continued to use them in two other articles.⁵

Meriggi then changed his viewpoint. He began to believe that the relative pronoun in the language of the Hittite hieroglyphs was *ia-*, as in Old Indic;⁶ hence he was forced to change his readings of the third and fourth signs, used for the relative pronoun, from his former *e* (*a+i*) and *ē* (*a+i*) to *i×a* and *i×ā* respectively, following the order in which Cowley had read these "ligatures."

In the same article Meriggi treated the first sign as an ideogram, *QUI*, without venturing any definite reading.⁷ For the second sign he

¹ *Ibid.* p. 476, n. 2.

² ZA XXXIX 176 ff.

³ *Ibid.* p. 186.

⁴ A. E. Cowley, *The Hittites* (London, 1920) pp. 60, 81, 90. Cowley's own readings for Meriggi's *ā* and *i* are "wa (or ya?)" and "wi."

⁵ RHA II 29 and Pl. 1; OLZ XXXVI 83.

⁶ RHA II 107; cf. also Hrozný, IHH pp. 36 ff.

⁷ RHA II 107 and 109.

now offered a reading *é*,¹ with perhaps another value, *a*×*i* or *i*×*a*, also. In favor of such value or values Meriggi adduced two comparisons. One was of ւ յ ՛ ՛ ՛ (A 6:4) with ւ ՛ ՛ ՛ (A 6:7), read by him as *VEN-é-é-la* and *VEN-é-ā-la* respectively.² It appeared to him that the two verb forms were identical and that *é-é* in the first example interchanged with *é-ā* in the second.³ In the other comparison Meriggi considered ՛ ՛ ՛ (M II 2) a variant writing of *a-i-ā-la*, “he made.” In reality no proofs for the reading of our second sign can be drawn from comparison of the A 6:4 and A 6:7 passages. In my own readings of these forms as *FOOT,ke-ke-te* and *FOOT ke-ā-te* respectively (p. 66) I take the first as containing a reduplicated form, *ke-ke-*, the second as having a simple stem, *ke-* or *kea-*. Again, the word *ke-ā-te* in M II 2, against Meriggi, is a variant writing not of his *a-i-ā-la* but of the word *FOOT ke-ā-te* cited from A 6:7. The comparison of A 6:7 with M II 2 establishes the fact that A 6:7 gives the full phonetic spelling of the verb meaning “to come,” preceded by the ideogram *FOOT*.⁴ Further evidence can be found in the equation of *arha(ha) ke-ha* (HHM 32:3) with *arha(ha) FOOT ke-ha* (HHM 58, frag. 4:1), in each of which the form of *ke* is unusual.

In another article Meriggi assigns to the third sign not only the value *i*×*a* but also the value *a*×*i*, and to the fourth sign besides the value *i*×*ā* the value *ā*×*i* or *a*×*ī*.⁵ For the first sign he cites Ռ Ռ Օ from the Izgin inscription (Hrozný, IHH Pl. XCIX A 2), which he reads as *i*×*a-a-ha* or *a*×*i-a-ha* or *QUI-a-ha* and equates with *ajaha*, “I made.”⁶ This is impossible, because the Izgin inscription has not

¹ *Ibid.* pp. 108 f.

² *VEN* (for *VENIR*, “come”) is Meriggi’s rendering of the ideogram. He translates both forms as “il revint.” These two forms were brought together already in HH I 9.

³ Later he read these two forms as *AD:ia-iá-la* and *AD-iá-ā-la* respectively (MVAG XXXIX 1, p. 98).

⁴ It may be mentioned also that the translation “he came” fits the context in M II 2 better than does Meriggi’s “he made.”

⁵ WZKM XL 235. See also *ibid.* pp. 237, 259, 275, 277 and *ibid.* XLI 4, 21, 29 on these and other arguments.

⁶ WZKM XLI 21.

ai̥aḥa but two words, *ki SEAT-ḥa*.¹ For the fourth sign Meriggi adduces $\hat{\underline{\underline{I}}}$ $\underline{\underline{I}}$ $\hat{\underline{\underline{I}}}$ from a Carchemish inscription (A 5 a 1) and reads it as $\bar{e}\text{-}\bar{a}\text{-}\bar{i}$, $\bar{a}\times\bar{i}\text{-}\bar{a}\text{-}\bar{i}$, or $\bar{a}\times\bar{i}\text{-}\bar{a}\text{-}\bar{i}$.² The whole inscription is, however, so sketchily engraved that readings derived therefrom must be considered too doubtful for discussion.

On the basis of Hrozný's³ as well as of his own⁴ claim that the third sign interchanges with the first sign in a relative pronoun, Meriggi later transliterated the first sign as *ia*,⁵ while he called the second sign *ia*. In his latest article⁶ the four signs continue to be rendered as *ia*, *ia*, *i×a*, and *i×a*.

To summarize Meriggi's various ideas on the values of the four signs, it can be said that he has made no serious effort to prove the values of the first and second signs. Most of his arguments have concerned the third and fourth signs. He has taken over from Cowley the belief that these two signs are compounded of *i* and *a* or their derivatives and agrees with Hrozný that a relative pronoun based on the root *ia-* could well be explained from the Indo-European point of view. But the examples that Meriggi adduces have failed to stand the test.

Bossert in his original study nowhere expressed an opinion on the phonetic values of any of the four signs. Only later did he accept from Hrozný and Meriggi the value *ja* (Meriggi: *ia*) for the first sign.⁷

In my own first study I recognized the phonetic nature of the second sign but did not offer any reading.⁸ I took the fourth sign to be a compound, *wā+wa* (the signs now read by me as *i* and *i*).⁹ Later Hrozný and Meriggi suggested *ia* as the basic content of all four signs. Being aware of the difficulties, in HH II I refused to accept the values those scholars suggested. Since at that time I myself had nothing better to offer, I left the first two signs unread in my list.¹⁰ How well founded were my doubts will be seen from what follows.

¹ Cf. Hrozný, IHH p. 444.

⁶ RHA IV 96.

² WZKM XL 259.

⁷ AOF X 286.

³ IHH p. 37.

⁸ HH I frontispiece.

⁴ WZKM XLI 29.

⁹ *Ibid.* pp. 24 f.

⁵ MVAG XXXIX 1, pp. 2 f.

¹⁰ HH II frontispiece.

NEW READINGS OF SIGNS

The clearest examples of the use of the relative pronoun can be observed in the curse formulas of building inscriptions, such as *x-a-s(i)*¹ *arha(ha) x̄c-la*, “who(ever) removes,” or *x-s(a) LITUUS.HAND-ni arha(ha) za-ā*, “who(ever) takes away,” both in A 6:9.

The same pronoun with the enclitic particle *-ha*, “and,” as in *x-s(e)-ba e-s(a)-ta*, “anybody (anything) is” (Assur e Ro 5 f.; f Vu 29 f.), serves as the indefinite pronoun. With the negative *ni*, “not,” the same pronoun occurs with the meaning “nobody,” as in *ni x-a-s(a)-ha* (HJM 20:2) or *ni x-a-s(e)-ha* (HJM 21:2).

In its reduplicated form the pronoun *x-s(i)-x-s(i)* occurs with the meaning “whoever” (HJM 49 A 1). It is also found in the dat.-loc. with the particle *-ha*, as in *x-e-ta-x-ta-a-ha* (A 6:8).

One can hardly fail to observe the exact parallelism in formation between hieroglyphic Hittite *xs*, *xsha*, and *xss* on the one hand and Latin *quis*, *quisque*, and *quisquis* on the other. To be sure, this parallelism in formation does not in itself offer any basis for reading *x* in hieroglyphic Hittite as *ki* or the like. The relative pronoun in hieroglyphic Hittite could just as well be *tis*, *pis*, *cis*, *čis*, or similar, as in other Indo-European languages; or it could even be based on an entirely different root. Nevertheless, in tentatively proposing here the reading *ki* for the sign in question I feel that I may have found the most suitable basis on which to work out the whole problem. In the course of this exposition several arguments in favor of the proposed reading will be offered.

Before going into the detailed discussion of the reading *ki* for the sign *x*, I may say that a priori there is nothing which could be taken as opposing this value,² whereas an offhand argument in favor of it can be based on the two facts (1) that *ke* and *ki* are the most important

¹ In the following pages *x*, *y*, *z*, and *z̄* are used as explained on p. 54.

² Meriggi (IF LII 46) took the interchange of the forms *xs* and *xas* to mean that the stem of the relative pronoun should end in *a*; in fact, this was one of his proofs for the reading *jas* of the relative pronoun in hieroglyphic Hittite. However, one need but glance at the paradigms of *i*-stem nouns to realize how regularly the *i*-stem forms interchange with *ia*-stem forms. Only a few examples from among the paradigms in my EHH need be mentioned: ^a*Ka-ma-ni-s(a)* and ^a*Ka-ma-ni-a-s(a)*, PRINCE *tra(ra)-wa-ni-s(a)* and PRINCE_c *-ni-a-s(a)*, for the nom.; GOD-*ni* and GOD-*ni-a*, LORD *na-ni* and LORD-*ni-a*, for the dat.-loc.; etc.

syllables not yet identified with particular signs in the Hittite hieroglyphic syllabary and (2) that among the few undeciphered phonetic signs only the sign *x* is as common as one might expect *ke* or *ki* to be.¹

Besides the forms *xs*, *xsha*, *xsxs*, and *xsxsha* cited above, there are also such forms as *z-e x-s(e)-ha* (e.g. Assur g Ro 1 f.) with the meaning "whoever."² Meriggi took such forms to be equivalent to *xsxs* (p. 59)³ and thought to have found in this comparison the best proof for the equality of *z* and *x*. From these occurrences alone I would have drawn just the opposite conclusion, namely that *z* and *x* are not equal to each other. The compound pronoun *z-e x-s(e)-ha* in its various forms is found almost a dozen times in different inscriptions from different periods and localities (cf. p. 69). The *z* and *x* are always written in the indicated order. It would seem that if they were equal in value they should occasionally appear in reverse order; but not a single example of the latter kind has ever been found anywhere.⁴ It is my conviction, therefore, that *z* and *x* should be read differently. If *z* has the value *ia* or the like, then *x* should be something else. Vice versa, if *x* can be proved to have the value *ki*, then *z* should not be read as *ki*. After these preliminary remarks we may proceed to test the readings of these signs on the basis of the facts involved.

Apart from its use in the pronoun referred to above, *z* is found but rarely in the Hittite hieroglyphic inscriptions. Four examples known to me occur in two Carchemish inscriptions and four more at Karapınar.

We find this sign in the words CITY + *me-ni A-pa-ni-ša-z^{city}*, which I would like to translate as "in the Apanišean city" (A 11 b 2), taking

¹ It may also be said that the reading *kis* for the relative pronoun is satisfactory from the Indo-European point of view, for the delabialized form is the one required in the satem languages (see p. 21, n. 3).

² In this last compound the initial sign *z* is a nasal of *z*, and their relationship to each other is the same as that of *ã* to *a* or *î* to *i*.

³ WZKM XL 277.

⁴ Furthermore, the occurrence of a word in which two identical syllables are written with different signs would a priori be open to suspicion. One could hardly conceive of cuneiform Akkadian *šaduša*, "her mountain," for instance, being written as *šá-du-šá* or *ša-du-šá*, with two different *ša* signs in the same word. And last but not least it should be mentioned that the lack of homophones in the Hittite hieroglyphic writing makes the occurrence of two *ia* signs seem extremely improbable.

the two words to be in the dat.-loc. case.¹ The form suggests that this geographic name represents a gentilic formation of the same type as exemplified by *Karka(ka)-me-ša-ž-s(a)^{city}* GREAT.QUEEN-ši+ra-s(a), “the Carchemisian queen,” in the nom. sing. (M IX 2). The nouns of this formation end in -*ž* in the dat.-loc., as in *Karka(ka)-me-ša-ž^{city}* ^a*Tarhu-ta-a*, “to the Carchemisian Tarhuns” (A 3:1), or *A-l(a)-pa-ž-ha-wa-e^{city}* ^a*Tarhu(hu)-ta*, “and also to the Aleppine Tarhuns” (HHM 10:4).² This fact suggests that in the form *A-pa-ni-ša-ž^{city}* the untransliterated sign should have a phonetic value parallel to *ž* in use. With a changed stem vowel (cf. p. 59, n. 2) a value *iā* for this sign would fit well here. We shall so read it from here on.

The same ending is found in the word CHARIOT *wa+ra-ž-ni-iā* (A 11 b 3) in the dat.-loc. sing. as compared with CHARIOT *wa+ra-ž-ne-n(a)* (A 12:2) in the acc. sing.³ The sign *iā* is found twice in another Carchemish inscription in the word *wa-iā* (A 6:4 and 6), but its context is too difficult to allow of any sure interpretation. The occurrences of *ia* and *iā* in the Karapinar inscription are discussed below after identification of sign forms used there.

From the interchange in the Karapinar inscription (HHM 36) of the form      (OLZ XXXVII 147:3 and 5, latter without the ideogram mark) with      (*ibid.* l. 4) we find that two signs,  and , are there used interchangeably for two similar sounds.⁴

¹ Translated by Hrozný, IHH p. 167, as “dans le pays de la ville d’Ap/banasa,” by Meriggi in MVAG XXXIX 1, p. 39, as “(zu?) der . . . en Stadt.” The latter transliterated these two words as *st-mi-na-a ba-na-sa-i×ā*, with different division, not supported by the text. Also extremely improbable is Meriggi’s contention (*loc. cit.* pp. 39–41) that the second of the two words here discussed and the words *Mu-i-ri-ā^{city}* and *Ka-wa-ž-na^{city}* (in ll. 2 and 3) are not real geographic names but are merely general expressions for some sites at Carchemish.

² The adjective can precede or follow the noun with which it is construed; see my EHH.

³ The word *waraines* or *warainias* (cf. p. 59, n. 2), “chariot,” may possibly be cognate with Egyptian *wrry.t* (also written *wry.t* and *wr.t*; see e.g. *Urkunden des ägyptischen Altertums* IV [2. Aufl.; Leipzig, 1930—] 9 and 3 respectively) with the same meaning. The Egyptian and hieroglyphic Hittite words may have a common Indo-European origin.

⁴ The same interchange can be observed in *ki-ā-[.] KING-ta-s(a) . . . ke-[.]-pa-wa-[.] FOLLOW-ta-s(a) HEAD-ta-s(a)*, “whether (he be) a king . . . or a following chief” (OLZ XXXVII 147:8). This transliteration utilizes the values derived below.

It is possible to determine immediately the sign in the later inscriptions to which one of these two Karapınar signs corresponds, because the same word appears in other sources as **-court** **ki** **+ra-ta-a**, i.e., **COURT>ki+ra-ta-a**, in the abl.-instr. case.¹

Furthermore, in Karapınar l. 6 we find **ki** **ha** **①**, which in view of the correspondences just given must represent some such form as the acc. sing. *iā ki-e-ha* of a later inscription (M IX 4). A unique but very important pronominal form from the Sultanhanı inscription is *iā-e ke-s(a)-ha* (HHM 49 A 2), which on comparison with *iā-e ki-s(e)-ha* (Assur g Ro 1 f.; see p. 60) shows clearly the interchange of *ke* and *ki* in the later period.

Reconstructing the corresponding forms from Karapınar and later inscriptions, we obtain the following picture:

Karapınar Inscription	Later Inscriptions
↑	↑
Ѡ	↑
†	†
‡, §	‡

The differences between the Karapınar signs and those of the later inscriptions can be regarded in two different ways. One alternative would be that four signs phonetically equivalent to the four used in the later inscriptions but not identical with them in origin were invented independently and used at Karapınar. In favor of this supposition it may be mentioned that the Karapınar inscription employs several signs not found anywhere else (see p. 36). However, in my opinion the other alternative, namely that the Karapınar signs are not independent inventions but merely exhibit peculiar variations of local origin, seems more likely. This view is supported by the close resemblances in form between the four signs of the Karapınar group and the equivalent four signs of the later inscriptions—resemblances which cannot be purely accidental. But in the long run this

¹ HHM 32:3; similarly *ibid.* 58, frag. 4:1; more fully, **court>te-s(e)-ki+ra-sa-i-ha**, “and (the gods) of the *teskiras*” (HHM 49 D). Other forms are given by Meriggi in MVAG XXXIX 1, p. 102.

problem of direct or indirect correspondences is not in itself important, because the reading of the signs is in no way influenced by it.

At Karapinar in the words *iā ke-ha* (l. 6; cited above) and *iā* (l. 3) the sign for *iā* occurs with three strokes on each side. In two other words, *iā-[. .]-mi-ā+ra* (l. 6) and *²a-ku-ā-iā* (l. 2), this sign is found with only two strokes on each side. The last word, in the dat.-loc. sing.,¹ would again favor the reading *iā* for the sign here discussed.

In    (l. 5), read as *va(r)pameja(?)* by Hrozný² and as *warbamija* by Meriggi,³ both scholars take the last sign as *ia*. Besides their interpretation a division into two words, *warpa meja*, "to/for my *warpas*," is possible. In either case the reading *ia* is plausible.

The last two examples together indicate that the Karapinar signs  (or ) and  bear the same relation to each other and have the same values respectively as do the later signs read here as *iā* and *ia*.

Very similar in form to Karapinar  are  in old inscriptions from Emirgazi and , slightly different in form, in old inscriptions from Carchemish. In the inscriptions from Emirgazi this sign is found in the compound      (IHH pp. 408 f.) and in   (*ibid.* pp. 416, 418, 420, 422); in the inscriptions from Carchemish, in   (I M X 5; XII 2:2). These three forms from the same stem are later written with *iā*; but, since nasalization is not expressed in the early writing, the foregoing examples use a sign which corresponds to later *ia*, without nasalization.

In view of the correspondence of the early forms just illustrated with one another and of these as a group with the later form of *ia*, it may be pointed out once more that Cowley's supposition, in which he was followed by Hrozný and Meriggi, that *ia* is a compound of *i* and *ā* or the like may not be correct. It seems much simpler to assume that all these forms represent the same sign. They certainly do not look like compound signs. The old Carchemish form with the curved prolongations at sides and top is especially important, because the later normal form of this sign could easily have developed from it.

¹ See Hrozný, IHH p. 358, n. 6, who compares nom. sing. *²a-ku-s(u)* found in Karapinar l. 4.

² *Ibid.* p. 368, n. 9.

³ RHA IV 197.

Finally, by way of commentary on the table of correspondences between the Karapınar signs and those of the later inscriptions, it should be noted that there is no definite support for equation of Karapınar  with later  or of Karapınar  with later . In fact, the opposite connection may possibly be correct.¹ The correlations made in the table are based on certain similarities of form. In particular, if  developed into , then  with three protrusions at sides and top, was more likely to develop into  than into . The fact that  is so much like the old Emircazi form  used for later  likewise played a certain role in this reconstruction.

The signs *ki* and *ke* occur in only a few words, but fortunately in some of these the interpretation or translation is self-evident from the context. On p. 31 COURT-*ki* and COURT-*ki-n(a)* were tentatively compared with COURT-*zi/ze-i*. The values *ke* and *ki* can be tested in the following additional instances:

1. In the relatively well preserved bowl inscription from Babylon (M I 3) we read *wa-tu-u wa-a-ki-i sa-he wa-mu ³a-ia-te*.² This was interpreted by Meriggi as "und ihm (dem ⁴S.) war ich (So) -te er mi(ch? -r?)." Meriggi reads the verb in the first clause as *'s-há* and takes it to be the first person preterit of the auxiliary verb "to be." However, his reading of the sign *sa* as *'s* is completely out of harmony with the system of values, and the corresponding translation "I was" does not fit the context. In my interpretation *sahe* stands for *sanhe*,³ which may be identical with the root *sanh-* in cuneiform Hittite, meaning "to approach, attack, ask for, inquire for, try,"⁴ since absence of *n* in the writing is a well known feature in hieroglyphic Hittite.⁵ The object *wa-a-ki-i* (acc. sing. neuter) may well be com-

¹ For the time being this problem is of as little importance as is the distinction of *ne* and *ni*, *te* and *ti*, or *ze* and *zi*. The two signs of each of these pairs interchange so extensively that, in spite of the readings we have assigned, we cannot yet say positively which of the signs we call *ne* and *ni*, for example, really has the value *ne* and which the value *ni*. Such niceties can perhaps be established later.

² In MVAG XXXIX 1, p. 89, transliterated by Meriggi as *wa-tu-u ¹wa-a-ia-i ²s-há wa -mu e'-da-ta*.

³ The forms HAND-*tu-wa-he* and HAND-*wa-ha(-e)* in A 6:5 provide the best example of the interchange of *-ha* and *-he* as 1st per. sing. verbal suffix.

⁴ Sturtevant, *A Hittite Glossary*, 2d ed., p. 132.

⁵ Some examples are cited in HH II 12.

pared with the cuneiform Hittite verb *wak-*, “to bite, to eat breakfast(?)”.¹ Thus the first clause would mean “and I asked him² for a bite (of food).” The second clause is relatively easy: “and he gave me (dat.-loc. or acc.) (food) to eat.”³ The natural and logical sequence of ideas just obtained by correlating hieroglyphic Hittite *wakii*, *sahe*, and ²*ata* with the cuneiform Hittite roots *wak-*, *sanh-*, and *et-/at-* supports the value *ki* used in my reading *wa-a-ki-i*.

2. In the phrase *i wa-ni-i ²a-mu ki-i-ha-e* in the Erkilet inscription (HHM 20:2) the last two words are translated by Bossert,⁴ by Meriggi,⁵ and hesitantly by Hrozný⁶ as “I made.” All these scholars take the value of my *ki* sign as *ia* and connect the last word with the verb *aⱩa-*, “make.” This translation naturally fits the context well, but there are some difficulties. First, the verb *aⱩa-* is regularly written with initial *a*; even though the change of *aⱩa-* through *iⱩa-* to *Ⱪa-* is a priori admissible, there are as yet no examples to prove it in this particular case.⁷ A much greater obstacle is the discrepancy between the *a* stem in *aⱩa-*, “make,” and the *i* stem in our Erkilet verb. I myself did not know how to translate my reading *ki-i-ha-e* until Professor Bonfante suggested connection with Indo-European **kʷei-*, translated as “aufschichten; aufhäufen, sammeln; der Ordnung nach auf oder zu einander legen; aufbauen; machen.”⁸ The last meaning, best exemplified in Greek *ποιέω*, “make,” and Old Bulgarian *činiti*, “ordnen, reihen, bilden,” also “make,” as in Polish, fits marvelously in our case. Hieroglyphic Hittite shows the delabialized consonant normal in the satem languages (see p. 21, n. 3).

3. We saw above (pp. 62 and 64, n. 1) that *ki* interchanges with *ke*.

¹ Sturtevant, *A Hittite Glossary*, 2d ed., p. 175. There also the noun *wagessar* or *wakkisar* is given the meaning “a bite of bread, breakfast bread,” or the like. Cf. *Supplement*, p. 46.

² In cuneiform Hittite too this verb is construed with the dat.-loc., as can be seen from some examples cited by F. Sommer, *Hethitisches* II (“Boghazköi-Studien” VII [1932]) 45 ff.

³ On the root *at-*, “to eat, to give to eat,” see above, p. 25. For the corresponding cuneiform Hittite root *et-*, *at-*, see Sturtevant, *A Hittite Glossary*, 2d ed., p. 38.

⁴ AOF X 286.

⁵ MVAG XXXIX 1, p. 127.

⁶ IHH p. 316.

⁷ Every one of the six examples cited by Meriggi under the root *ia(i)-* in MVAG XXXIX 1, p. 127, is impossible; cf. above, pp. 57 f.

⁸ Alois Walde, *Vergleichendes Wörterbuch der indogermanischen Sprachen*, hrsg. und bearb. von Julius Pokorny, I (Berlin und Leipzig, 1930) 509 f.

The latter sign is rare in the Hittite hieroglyphic writing. In the relative-indefinite pronoun it occurs only in *iā-e ke-s(a)-ha* (HHM 49 A 2), cited above (p. 62), and perhaps twice in *ke-s(a)* in the Bulgarmaden inscription (CE XII 4 and 5).¹ Elsewhere it occurs in the frequently used word for "come," in the simple forms *foot ke-ā-te* (A 6:7; A 11 b 4) and *ke-ā-te* (M II 2), *foot ke-ḥa* (HHM 58, frag. 4:1) and *ke-ḥa* (HHM 32:3),² and in the reduplicated forms *FOOT₂ ke-ke-te* (A 6:4), *FOOT ke-ke-se-ti-ša* (A 11 b 3), and *FOOT ke-ke-se-te-ša* (A 12:2). The same root may also be found in *ki-sa-te* (CE IX 3). Originally I tried to identify the root of these words with cuneiform Hittite *ia-*, "to go,"³ and thus prove the value *ia* for the signs here read as *ke* and *ki*; but this turned out to be impossible. Professor Bonfante would connect the hieroglyphic Hittite root with the Indo-European root **gʷem-*, **gʷā-*, "gehen, kommen."⁴

ROOTS AND ACCIDENCE

The normal relative pronoun in the language of the Hittite hieroglyphic inscriptions is *kis* or *kias*, written with *ki* as its first sign. The declension of this pronoun is like that of the demonstrative *īs*, "this." The regular forms of the sing. are: dat.-loc. *ki-ta*, acc. masc.-fem. *ki-n(a)*, acc. neuter *ki-ī*; of the pl., nom. and acc. masc.-fem. *ki-i* or *ki-a-i*.⁵ Some simple relative clauses, such as *ki-a-s(i) arḥa(ha) x_{2c}-la*, "who(ever) removes," have been mentioned on page 59. From this pronoun were developed other forms, such as *kisha*, *kiskis*, *kiskisha*, "whoever" or "anybody" (*ibid.*).

Besides clauses using *kis* there are others in which we find instead of *kis* the word *ias*, e.g. *wa-tu-te-e* BREAD *tu+r(a)-pi-n(a)* DRINK *si+*

¹ Copy doubtful in both cases. Instead of *ke-s(a)* read probably *ia-s(a)* in A 3:4 (see above, p. 55, n. 7).

² These two examples have this sign in very unusual forms.

³ Sturtevant, *A Hittite Glossary*, 2d ed., p. 184.

⁴ Walde-Pokorny *op. cit.* pp. 675-78. Especially interesting is the comparison of reduplicated *ke-ke-te* and of analogous hieroglyphic Hittite forms with Greek $\beta\epsilon\beta\eta\kappa\epsilon$ and the like. The delabialized hieroglyphic Hittite form is of course in conformity with the normal tendency in the satem languages (p. 21, n. 3).—To connect the hieroglyphic Hittite words *ke-*, *keke-*, and *kisa-* with cuneiform Hittite *ki-*, *kikki-*, *kikkis-*, *kis-*, *kisa-*, "be, become," and the like (Sturtevant *op. cit.* pp. 78 f.), offers at present certain difficulties which need further investigation.

⁵ See the paradigms in my EHH.

r(a)-la-te-ī-ḥa ia-s(a) arḥa(ḥa) za-ta-a, “and then *ia-s(a)* takes away from him bread and wine” (A 11 a 6 f.).

From the interchange of the form *ki-a-s(a) arḥa(ḥa) x-a* in A 2:4 with *ia-s(a) LITUUS.HAND-a* in A 2:5 Meriggi drew the conclusion that the two signs here transliterated *ki* and *ia* respectively must have the same value, because each is used in a word which according to him expresses the relative pronoun.¹ There is no doubt that at first glance comparison of such clauses as those referred to above seems to point toward complete parallelism in the use of *kis* and *ias*, and naturally one is tempted to see in them examples of one and the same relative pronoun.

The difficulty begins when we try to analyze such clauses as those in A 6:8 f.:²

<i>wa-ara?(ra)</i>	<i>x₁</i>	<i>za-a</i>	<i>ki-s(a)</i>				
“and it(?)	down(?) ³	takes,				
<i>i-a-pa-wa</i>	MON.> ₂ lu-wa-ta-a	MON.> ₂ lu-n(a)-e-a	<i>ia</i>	LITUUS.HAND-ne	<i>arḥa(ḥa)</i>	<i>za-ā</i>	takes,
and one ⁴	from the monuments	monument	....	also ⁵	away		
<i>te-s(e)-pa-wa-e te-śa</i>			<i>ia</i>	LITUUS.HAND-ni	<i>arḥa(ḥa)</i>	<i>za-ā</i>	
and this (or) that ⁶			....	also ⁵	away		takes,
<i>ne-pa-wa-te</i>	² <i>a-ma-i</i>	² <i>a-ze-ma-ī-e</i>	<i>ki-a-s(i)</i>		<i>arḥa(ḥa)</i>	<i>x₂-la</i>	
or then	my	² <i>azemas</i>	....		away		moves,
<i>ni-pa-wa</i>	CHILD- <i>ni-na-ta-a</i>	<i>i-a-n(a)</i>					
or	from the children	one ⁴ (child)					
<i>ni-pa-wa</i>	<i>x₂wa-śa-na-sa-ta</i>	<i>i-n(a)</i>	<i>ki-s(a)</i>	LITUUS.HAND-ni	<i>arḥa(ḥa)</i>	<i>za-ā</i>	
or	from the <i>waśanasas</i>	one ⁴ (<i>waśanasas</i>)	....	also ⁵	away		takes.” ⁷

¹ WZKM XLI 29. The first example was translated by him as “*wer (es?) entzieht*,” the second as “*wer entgegenhandelt*.” See also Hrozný, IHH p. 37.

² For practical purposes the following text is so divided as to exhibit its parallelisms.

³ Meriggi in MVAG XXXIX 1, pp. 35 f., translates this word as “*herunter(?)*.”

⁴ No other translation for the word *ias* or *is* fits here so well as “one.”

⁵ Meriggi reads this word as *ap-pā-nā/na* and translates it as “*wieder*” (MVAG XXXIX 1, p. 95).

⁶ Translated by Hrozný as “*ceci (ou) cela*” (IHH p. 189).

⁷ Based on the discussion that follows, a somewhat free translation of the foregoing as a whole, plus the curse that accompanies these clauses, would be: “*and who(ever) takes it down(?)*, if he takes away one monument from the monuments

In this arrangement *ki-s(a)*, *ia*, *ia*, *ki-a-s(i)*, and *ki-s(a)* all appear to be construed alike and to be forms of the relative pronoun. The striking fact, however, is that, while the first, fourth, and fifth forms, based on *ki*, have the expected nom. ending, the second and third forms, *ia*, lack the nom. ending. Hrozný in his transliteration of this passage¹ was not disturbed by that lack, as he often takes forms without any ending to be nominatives.² Meriggi has never published a translation of this particular Carchemish inscription, but he has interpreted the second and third forms (my *ia*) as a compound of *i*×*a*×*s*.³ I do not understand how Meriggi could see in this sign⁴ a compound with *s(a)*, but in all fairness to him it must be mentioned that he at least saw the difficulty involved in the alleged existence of relative pronouns without the necessary ending and tried to surmount it in some fashion.

Since the nom. sing. of the relative pronoun *kis* never appears in the form *ki* without the -*s* ending, it is impossible to explain the lack of case ending in the forms written as *ia* except by admitting that they do not correspond to the normal relative pronoun.

That the words based on the root *ja-* are not equivalent to those based on the root *ki-* can be gathered also from an additional observation strangely overlooked by those scholars who read both roots as *ja-*. It has been noted (p. 66) that the relative pronoun written with the sign *ki* is declinable and that from it are developed the compounds *kisha*, *kiskis*, and *kiskisha*. On the other hand, the word *ja* or *jas* is not completely declinable, for no corresponding dat.-loc. **jata* nor any pl. form has ever been discovered. Also, in contrast to the forms *kisha*, *kiskis*, and *kiskisha*, no such secondary formations as **jasha*, **jasjas*, and **jasjasha* occur in the language of the Hittite hieroglyphs.

In examining the forms based on the root *ja-* it can be observed that they serve chiefly as conjunctions or adverbs. The two occurrences of

(or) if he takes away this (or) that, or then who(ever) removes my *pazemas* (sing.) or who(ever) takes away one of the children or one of the *wašanasas* (pl.), may the dogs of Nikarawas eat away his head."

¹ *Ibid.* pp. 189 f.

² See his paradigms and discussion in IHH pp. 77 ff.

³ MVAG XXXIX 1, p. 125; cf. RHA IV 85, No. 168.

⁴ Such slightly different forms as those in A 6:8 are surely mere variants of that found e.g. in A 11 a 7.

ia in A 6:8, cited above, could possibly be translated as "if."¹ The form *ia-s(a)* alone occurs four times (A 2:5; A 3:4; A 11 a 7; M II 6). In the older period there is the form *ia-s(a) ki-a-s(a)-ha* in the nom. sing. (Hrozný, IHH pp. 408 f.), which later became *iā-e ki-s(e)-ha* (Assur g Ro 1 f.) or *iā-e ke-s(a)-ha* (HHM 49 A 2), with dropping of the nom. ending in the first word and subsequent nasalization. The same combination occurs in the acc. sing. in the forms *iā-n(a) ki-ha-n(a)* (CE X 4; unique!), *iā ki-ha-n(a)* (CE X 3), *iā-e ki-ha-n(a)* (Assur c Vu 11 f.; d Vu 2 f.; f Ro 26 f.), *iā-e ki-a-ha* (Assur e Vo 19 f.), *iā ki-e-ha* (M IX 4), and *iā ke-ha* (Karapınar l. 6). A word written *iā* or *iā-e* is used frequently as a conjunction or as an adverb with meanings which are often difficult to establish.² Two examples may be mentioned here: *ni-wa-mu-a ³a-pi iā-e ROAD-wa-ni-ša*, "and why do you not send those to me?" (Assur d Ro 11-14; cf. Assur f Ru 15-19), and *x ³a-tu-ni-n(a)-wa-mu ki-̄i iā-e ma-nú-ha ROAD-wa-ni-te*, "and why did he ever send an ³atunis to me here(?)?" (Assur a Vu 15-Ro 1).

This long exposition can best be brought to an end with the following résumé: The relative pronoun in the language of the Hittite hieroglyphic inscriptions is *kis*. It is completely declinable, and from it such secondary formations as *kisha*, *kiskis*, and *kiskisha* were developed. Originally also *jas* may have been a real relative or demonstrative pronoun, as in some other Indo-European languages; but, if so, in the course of time it was gradually dislodged by *kis*, and its use became restricted to certain specific formations.

¹ This translation is favored by the existence of such correlative forms as *iā-pa-wa-ti . . . iā-pa-wa-ti* (A 11 a 6) and *iā-e-pa-wa . . . iā-e-pa-wa* (RHA III Pl. 4:7 f.) with the meaning "whether . . . or." According to Sigmund Feist, *Etymologisches Wörterbuch der gotischen Sprache* (2d ed.; Halle, 1923) p. 224, the Gothic conjunction *jabai*, "if," is based on the Indo-European root **je-*, "who."

² See the examples (with some translations) given by Meriggi in MVAG XXXIX 1, pp. 126 f.

INDEX¹

NAMES DISCUSSED

GEOGRAPHIC		PERSONAL
Alpaī- (cf. Halpani-), Aleppine, 61	xlupa-, 16	
Apanišājā-, Apanišean, 60 f.	xme-, 16	
Exrawana/i-, 35	x(n)t-, 43	
Halpa-, 17		^Aīme-, 50
Halpani- (cf. Alpaī-), Aleppine, 51		^Apale(?), 36
Haranawanea-, Harranean, 16		^Astuw-aze/imaī-, 24, 30
Karkamešai-, 11		^Azela-, 29
Karkamešai-, Carchemisian, 19, 61		Halpa-, 18
Kawaīna (dat.-loc.), 61		Halpa-runtā-, 17
Lakawani-, Lakean, 46		Hattusili-, 50
Merae, 27		Hertipu-, 5, 11, 23
Muiriā (dat.-loc.), 61		Kamani(a)-, 59
Parna-, 51		Katuwa-, 3, 16 f.
Semiraka-, 7 f.		Kukuni, 9, 40
Tuwana-, 31		Laīma-, 19
Zazna, 34		Luħi-, 21
xrmanawana-, 34		Muwatele/i-, Muzali-, 23, 33
xtumania-, 34		Pana-muwata-, 50
DIVINE		
^Atraluħa-, 42, 47		Putu-ħapa-, 11
Karħuħa-, 42 f., 47		Runtā-, 51
Kumirama-, 8, 16		Saruwani-, 45
Kupapa-, 3, 26, 29, 37 f., 42 f., 47		Sertu, 15
Mutale-, 16		Ša(n)kara-, 11, 19, 22
Nikarawa-, Nikaruħa-, 9, 11, 31, 40, 68		Tarħu-pi(ā)-, 10
Pahħata-, Baħlat, 46		Tarħu-zi, 27-29
Širku (dat.), 17		Umeneli, 33
Tarħu(n)t-, 4 f., 16, 43, 47, 50 f., 61		Wela-runtā, 31
Tarħu(n)zai-, Tarħuntian, 25, 30		Zeħe-, 51
Tata-, 48		xrnawāi-, 34
Temuri-, 14, 23		xrnawara-, 34
Tuteā-, 23		xħame-, 50
		xwati-, 16

¹ An *x* is used for an unread syllable, an *x* for an unidentified ideogram. In *^apast-* and *^awist-* the *x* stands for an unknown vowel.

VOCABULARY²

WORD	MEANING	PAGE	WORD	MEANING	PAGE
-a	(particle)	52, 67, 69	~asharme-		47
~aṣa-	to make	1, 4, 23, 26, 30, 44–46, 48, 51, 57, 65	astra-	hand	12
			astrata/e-	throne	46
~aī-	to love	43	~aśī-	to love	1, 17
~aku-		63	~aśwa-	horse	19–22
~akuājā		63	~at-	to eat	24 f., 30, 45, 64 f.
~ama-, (~a)me(a)-,	my	4, 47–50, 52, 63(?)	~atra-	person, self	12 f.
eme-, meža-(?)		67	~atunara	(noun)	52
~amu	I	37, 46, 65	~atuni-	(noun)	52, 69
~amuralera	(noun)	52	~az	it; they, them	49 f., 53
-an	him	25, 43	~azema-	image, stela (or the like)	4, 48–50, 53, 67 f.
anta	in, into	3	~tituus) BOWL-	BOWL	16, 19, 47, 51
(~a/e)pa-, ~api-	that; he	21, 44, 52, 69	BUILDING.	to strength-	50
apan	back, again, also	25, 44, 47, 50 f., 59, 67	FISTRU-	en(?)	
(~a)pas/śa-, ~apast/śi-, ~apiśa-, ~awis-, epasa-	his	1, 13, 17, 19, 21, 51	BUILDING tepa-	(verb)	50
arha	out; off, away	4, 12, 24 f., 45–52, 57, 59, 66, 67	CHILDni-	child	33
arba-	frontier; province, territory	44	CHILDnina-	child	67
			CHILDnixwara	(noun)	35
~asa-	seat, chair	15	CITYmeni-	See <i>umene/i-</i>	
~ase-	to sit	15, 58	COURTki-	court	31, 64
			COURTze/i-	court	4, 31, 64
			e-	and	26, 47, 52 f.
			-e	(particle)	12, 25, 29, 33, 35, 45–48, 52 f., 61, 65, 67
			eme-	See <i>~ama- etc.</i>	
			epa-	See <i>(~a/e)pa- etc.</i>	

² Words written with ideograms plus full phonetic spellings are entered under their phonetic spellings (e.g. HAND *a-s(e)-tra(ra)-a* under *astra-*). Words written with ideograms plus only partial phonetic spellings are entered under the former (e.g. ROAD-*wa-ni-* under ROAD*wani-*). Adjectives derived by addition of -śa- (cf. pp. 21 f.) are regularly entered directly under the corresponding nouns.

INDEX

73

WORD	MEANING	PAGE	WORD	MEANING	PAGE
<i>epasa-</i>	See (<i>a</i>) <i>pas/</i> <i>śa-</i> etc.		<i>ja-</i>	who(ever)	48, 66 f., 69
<i>erma-</i>	(noun)	46	<i>ja, jā</i>	if, -ever;	47, 51, 63,
<i>es-</i>	to be	53, 59		whether;	67-69
<i>eteta</i>		52		why	
<i>eti</i>	in, within	44, 50	<i>jāpawa . . .</i>	whether . . .	69
EXALTS/za-	to exalt	30	<i>jāpawa</i>	or	
EYEle-	eye	53	<i>jas kiasha,</i>	whoever	60, 62 f., 66, 69
FOLLOW-	to follow	61	<i>jāe ki/esha,</i>	etc.	
FOOTpara	(noun)	52			
GATE <i>lena/e/i-</i>	gate	6, 45, 51, 53	<i>jā[x]miāra</i>		63
GOD.HOUSE-	temple	34, 50, 52	<i>ī-</i>	this	4, 44-47, 49-53, 65
<i>haza-</i>			<i>īraī-</i>	(verb)	13
VOLUTE.			<i>īrata-</i>	to re-	11, 46, 56
HOUSEza				move(?)	
GODne/i(a)-	god	16, 19, 24, 42, 45, 47, 59	<i>katana</i>	(noun)	51
GREAT.QUEEN-	queen	18, 61	<i>ke-</i>	See <i>ki(a/e)-</i>	
<i>sira-</i>			<i>ke(ā)-</i>	to come	21, 57, 66
HAND <i>haraī-</i>	to prepare(?)	52	<i>keke(se)-</i>	See <i>ke(ā)-</i>	
HANDmea-	strength(?)	26	<i>ki(a/e)-, ke-</i>	who(ever)	21, 44, 46- 48, 50- 52, 57, 59 f., 66-69
HEADn (for	to, for	29			
HEAD.					
TONGUE <i>n</i>)					
HEADta-	chief	17, 61	<i>ki(a)s̄ha</i>	anyone, any-	59 f., 66,
HOUSEna/e/i-	house	50 f., 52 f.		thing	68 f.
HOUSE <i>hara-</i>	(verb)	32	<i>ki/eā . . .</i>	whether . . .	61
- <i>ba</i>	and, also	34, 43, 46- 48, 50 f., 59, 67	<i>ki/eā</i>	or	
<i>hamaś/sa-</i>	grandchild	19, 25	<i>kiī</i>	here(?)	69
<i>hara-</i>	to destroy	12, 47, 50 f.	KING <i>ta-</i>	king	16, 48, 61
<i>hara/ise</i> <i>te/</i>	(some kind	14, 45, 51		See <i>ke(ā)-</i>	
<i>ine/i-</i>	of) build-		<i>kisa-</i>	whoever	59 f., 66, 68 f.
	ing				
<i>harnise-</i>	(noun)	46, 53	<i>kiskis(ha)</i>		
<i>hatura-</i>	letter	12			
- <i>hawa</i>	and, also	46-48, 51 f., 61	LAND <i>ne/i(a)-</i>	land	19, 52
			LEG <i>nu-</i>	to bring,	29, 46
<i>hi(?)sali-</i>	(noun)	52		to offer	
<i>huḥata-</i>	ancestor(?)	24	LEGS-	to pass	51
<i>huḥazali-</i>	ancestral(?)	24		through	
<i>huxrapali-</i>	(noun)	35		(something	
<i>i(a)-</i>	one	67		[acc.])	

WORD	MEANING	PAGE	WORD	MEANING	PAGE
LITUUS.HANDa	(verb)	67	pia-	to give	2, 47
LITUUS.HANDn	See <i>apan</i>		pitehala-	to build (or the like)	25
LITUUSnata-	(verb)	19	-ra	it; them	52, 67
LORD-	See <i>nani(a)-</i>		RIVER.LANDZA-	river land	24, 44, 46
-ma-	to me	52	ROADwani-	to send	19, 53, 69
-maī	to/for them	47	sale-	to oppose	30
mamu(n)t-	company(?), compan- ion(?)	42 f.	sanawa-	good	48, 52
			sanawasatra-	to make	12
<i>manuha</i>	ever	69		good, to	
<i>marata-</i>	word, thing	51		improve	
<i>me(a)-</i> ,	See <i>ama-</i>		<i>sa(n)b-</i>	to ask (some- one [dat.- loc.]) for,	
<i>meja-(?)</i>	etc.			to request (something [acc.])	
<i>mirali-</i>		51			
<i>mirate</i>	words	51			
MONUMENT-	monument,	45, 67	<i>sani-</i> , <i>sine-</i>	to damage	23
<i>luwa-</i>	column		SEAL	seal	18
MONUMENT-	to wall up(?)	51, 53	<i>selabā-</i>	See <i>ase-</i>	
<i>sira-</i>			<i>selabā/eka-</i>	(noun)	47
-mu	to/for me	26, 47 f., 52, 64 f., 69	<i>sine-</i>	(verb)	36
<i>muwaza-</i>	strength, violence	9	<i>sirlate-</i>	See <i>sani-</i>	
<i>nani(a)-</i>	lord	16, 59	<i>śurni</i>	wine	48, 66 f.
<i>ni</i>	not	59, 69	<i>śuwani(a)-</i>	horns	19–22, 52
<i>nimuwaī-</i>	son	21	TABLEwaśa(?)	dog	19–22, 25
<i>ni/epawa</i>	or	48, 50, 67	-table	46	
<i>nuwaī</i>	nine	47	<i>te-</i>	this, that	67
<i>pa-</i>	See <i>(^oa/e)pa-</i>		<i>te-i</i>	then	26, 43 f., 46–48,
<i>para-</i>	to offer	12			50–52,
<i>paraḥae</i>	(adverb?)	11 f.			66 f., 69
<i>paralara</i>	(noun)	52	<i>tenati-</i>	(verb)	52
<i>parna-</i>	(cf. HOUSE- <i>na/e-i-</i>)	51	<i>tene/i-</i>	(verb)	8, 26
<i>pat-</i>	foot	26, 30	<i>tepaselā-</i>	ruler (or the like)	52
<i>pata-</i>	to bring	48	<i>teski/era-</i>	court	19, 31, 61 f.
-pawa, -pawa-	(a compound particle	34, 44–52, 61, 67	<i>-ti</i>	See <i>-te</i>	
	attached		<i>tita-</i>	father	3, 24
	to first		<i>titā-</i>	paternal	47, 50 f.
	word of		<i>tizali-</i>	paternal	24, 30
	second or later clause in a series)		<i>tra</i>	three	37
			<i>trapa-</i>	to (re)turn	8, 12, 26, 30
PAWS(?) <i>wara</i>	(noun)	52	<i>trapuna-</i>	tribune	11 f.
			<i>trawane/i(a)-</i>	prince	16, 42, 59

INDEX

75

WORD	MEANING	PAGE	WORD	MEANING	PAGE
<i>-tu</i>	to/for him	47 f., 52, 64, 66	<i>waraiñe/i(a)-</i>	chariot	61
<i>turpa/i-</i>	bread	19, 32, 47 f., 66	<i>warala-</i>	(noun)	48
<i>tuwa-</i>	to put	64	<i>warpa-</i>		63
<i>tuwa-</i>	(noun)	47	<i>ušanaša-</i>		
<i>tuwara</i>	(noun)	52	<i>waši-</i>	(verb)	16
<i>tuwars/ša/e-</i>	garden(?), vine- yard(?)	15, 19, 21, 48	<i>wašira-</i>	(verb)	16
<i>uřra</i>	(noun)	12, 52	<i>za-</i>	to take	4, 24, 26, 48, 50, 59, 67
<i>umene/i-</i>	city	33, 60	<i>zama-</i>	(noun)	47
<i>upatat/za-</i>	(noun)	24	<i>ze/i(a)-</i>	descend- ant(?)	26, 28
<i>usali-</i>	libation	47 f., 53	<i>zestra-</i>	(noun)	50
<i>uša-</i>	to libate	19	<i>1ta-</i>	one	51
<i>ušanaša-</i>	See <i>wašanasa-</i>		<i>xara</i>	to choose(?)	33
<i>ušala-</i>	to buy	19, 47	<i>xrlī-</i>	(noun)	34
VOLUTE.	See GOD.		<i>xx-</i>		32 f.
HOUSE	<i>za-</i>		<i>xxa-</i>	(verb)	32
<i>wa-, -wa, -wa-</i>	(a particle attached to first word of a clause; see also - <i>hawa</i> and - <i>pawa</i>)	25 f., 34, 37, 43, 45, 47 f., 51-53, 63 f., 66 f., 69	<i>xxla</i> <i>xxnu</i> <i>x</i>		32 32 67
			<i>xla-</i> (preced- ed by <i>arha</i>)	to remove	4, 36 (writ- ten
					<i>xxla-</i>), 46, 48- 50, 52,
<i>wařā</i>		61			59, 66 f.
<i>waki-</i>	a bite	48, 64 f.	<i>xlunase-</i>		34
<i>waliā-</i>	(verb)	16	<i>xme-</i>	(noun)	52
WALL.	to build	45, 52	<i>xmemata-</i>	to appoint(?)	8 f.
HANDme-			<i>xmeta-</i>	to change(?)	51
<i>wamex-</i>	(verb)	34	<i>xpiša-</i>	beautiful(?)	53
<i>wana/e/i-</i>	monument	46, 49, 53, 65	<i>xtāt/za-</i> <i>xwa</i>	other (noun)	24 52
<i>wara-</i>	to revere(?)	32, 52	<i>xxse-</i>	(verb)	37